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TOTAL ABSTINENCE

A COURSE OF ADDRESSES

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TOTAL ABSTINENCE

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OTAL ABSTINENCE

A COURSE OF ADDRESSES

BY

BENJAMIN WARD RICHARDSON
M.D., F.R.S., M.A., LL.D., F.S.A.
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, AND HONORARY PHYSICIAN TO THE ROYAL LITERARY FUND

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1879, May 9.
Gift of
the editors of the
Literary world.

TO THE

REV. CANON FARRAR, D.D., F.R.S.

ELOQUENT TEACHER AND FELLOW-WORKER IN THE GREAT REFORMATION OF THE PRESENT AGE, THE LIBERATION OF MAN FROM THE SLAVERY OF INTEMPERANCE,

These Addresses are

WITH SINCERE ADMIRATION

Inscribed

INTRODUCTORY NOTE.

THE FIRST of these Addresses on Abstinence was delivered before the Hunterian Society of London, at the request of the President and Council of that learned Medical body.

The remaining four Addresses were prepared at the instance of the National Temperance League, and were delivered, before the members of the League and their friends, during the past session.

The Addresses as they are now collected form a sequel to the Cantor Lectures on Alcohol, which have received so favourable a reception from the reading public.

12 HINDE STREET, W.:
August 6, 1878.

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TOTAL ABSTINENCE.

ADDRESS I.

ON THE PRACTICE OF TOTAL ABSTINENCE IN HEALTH AND DISEASE.

BETWEEN seventeen and eighteen years ago, while engaged in some experimental physiological researches, I began, for the first time in my life, to doubt the commonly accepted value and physiological position of alcohol. Before that time I had passed in review the works of more than one learned and earnest medical scholar on this subject. The late excellent surgeon and admirable man, Mr. Higginbottom, of Nottingham, had appealed to me through his works. The distinguished professor of surgery in Edinburgh, the late Professor Miller, one no less distinguished in the sister island, the late Dr. Cheyne, of Dublin, and one other, not less eminent in this city and who still lives amongst us, Dr. W. B. Carpenter, had in like manner appealed to me and to the whole reading world on this subject. I knew the works of these writers well, and also the works of many illustrious men who had flourished before this generation altogether; but I was not influenced by any of their appeals beyond entertaining for them a feeling of sincere respect. I am happy now to remember that, knowing how solemnly right they were and

how foolishly I was wrong, I did, at all events, give them respect, and did not, in my ignorance, rave at them as fanatics, nor count them as having forsaken their calling because they were bold enough to declare the truth as it was revealed to them through the investigation of nature.

In short, their arguments were not such as conveyed conviction at that time to my mind, and it was not until certain physiological facts, which contradicted in the flattest manner my preconceived beliefs, were unanswerably before me, that I began to doubt on the one hand and inquire anew on the other. In course of time I came to certain conclusions which were embodied in a paper on the physiological action of the alcohols, and which ran counter to much that was accepted. But this conversion, so far, towards the truth of total abstinence as the best policy for all men, did not influence me in relation to habit and mode of life. At last, about 1869, I began to abstain, at intervals, for experimental purposes, and finding myself in many ways benefited during the periods of abstinence, I determined to abstain more systematically, and, if possible, altogether. The one great obstacle to success which so many men feel, and which to weak-minded men is often a permanent obstacle, was now the social difficulty of abstinence. What should be done in society, what at my own table, what at the table of friends? I strove to meet this difficulty by acting on a hint from Sir Walter Raleigh, that wine should be only used for purposes of recreation, and that this anciently was its use. So I abstained on all occasions except at the feast, if I may express myself in a simple way. The practice led to another new and unanswerable experience, viz., that however temperate I might be, I was always less healthy after the feast, and far less disposed to return to the condition of health that was invariably connected with the period of total abstinence. In the face of this

observation, repeated over and over again, I determined at last to abstain absolutely.

These are the plain and light of day facts as to the reason of my adhesion to the cause of total abstinence from alcohol, and having derived benefit both in knowledge and health by that change, I have felt it a duty to teach the truth by precept as well as example, and to show on what just and reasonable grounds the truth is based.

This duty, or sense of duty, has led me to give up what were once leisure hours and so-called hours of enjoyment to the laborious task of teaching the truth publicly; but in all that work I have never taught or been drawn into teaching,—despite many temptations,—what may be considered the strictly medical side of the question at issue. That side of the question could, I felt, only be properly considered by the profession of medicine itself, when in its wisdom it saw that the time had come for the labour. The man who belongs to a profession, if he be a man at all, will be loyal to it even though he dares to differ from the majority on some particular point. He will not be angry at finding himself opposed, if, without any selfish end or aim, he knows himself to be honest and truthful. He will not be carried away from his profession though the applause of thousands of his countrymen heartily second his movements. None of these things! He will await the course of events, assured that the great soul of his profession is just, and that the natural arguments which perforce influenced him, a professional man, will influence his compeers in due time.

This is the course I have taken. And if anything could tend to prove to me the soundness of it, it is the circumstance of being invited by one of the old-established Medical Societies of the metropolis to deliver an address to it on the medical side of the alcohol question. I rejoice in the opportunity; and I am

sure that the friends of temperance throughout the world, to whatever rank they may belong, and to whatever section of their great cause they may be espoused, will rejoice with me at seeing this society open the way to discussion on abstinence and the arguments on which it rests. For the temperance cause is one which wins its way just in proportion as it is studied and debated, and which will win with double speed when it is promoted by united professional zeal and activity.

On Alcohol in Health.

In my experimental and practical lectures on Medical Science, published in the *Medical Times and Gazette*, and in reports to the British Association for the Advancement of Science, I pointed out many years ago what, according to my observation, is the physiological action of the fluids called alcohols. A lecture delivered on December 7, 1869, and published in the *Medical Times and Gazette* on December the 18th of the same year, gives a fair epitome of many of the views I had then arrived at in respect to the action of the different alcohols on animal life. From the conclusions then reached I have nothing important to withdraw, and to them not much to contribute that is new. I may, therefore, quickly summarise them, so as to include the main points. By this method I shall more readily bring under review the propositions I shall have to submit, finally, for consideration.

The Alcohols, as a family of chemical bodies, have all a common principle of action when they are introduced into the living animal body. The symptoms they induce differ in degree, but the difference is not specific in character; it is only in degree. The difference depends on nothing more than the weight and degree of solubility of the alcohol employed. From the lightest of the alcohols, the methylic,—which is so light that without much difficulty it can be made to act as

an anæsthetic and can be administered in the form of vapour,—through ethylic or common alcohol, up to the heavier alcohols, propylic, butylic, amylic, the stages of action are maintained. The phenomena are maintained in each stage, and with one exceptional additional phenomenon in the case of the heavier alcohols, show no differences save and except in the matter of time in which the stages are developed, and in the periods of their continuance. All through the series, indeed, when we are looking at the phenomena induced by them on living organisms, we are observing the action of the oxide of an organic radical constructed throughout on the same type, containing the same elements in the same relative proportions, and producing no modification of action beyond what is dependent on chemical condensation, and the physical distinctions which naturally result therefrom.

The phenomena induced by the alcohols, divide into four distinctive stages when complete action is developed. There is a first stage of excitement; a second stage of excitement, with some failure of muscular direction, and with some mental confusion; a third stage of distinct muscular failure both in direction and power, with much mental confusion; and a fourth stage of complete muscular failure, both in direction and power, with entire mental insensibility. These stages, even to the extreme of the fourth, are compatible with recovery, if the conditions for recovery are favourable; for the breathing, though much reduced, is sustained and the heart also continues in regular motion. Nay, even after the breathing has ceased the heart continues awhile in motion, contracting rhythmically in all its four parts for some time after death has seemed absolute.

The four stages induced by alcohol have been compared to the stages induced by chloroform. Generally the comparison is correct, but it is not correct in detail.

The more exact comparison is between alcohol and ether. This is natural, because ether being, in fact, nothing more than a double of the radical ethyl in combination with oxygen, instead of a single equivalent of the radical, is a similar fluid, with a lower boiling-point, a lower specific weight, a lesser solubility in water and blood, and a higher vapour density. It enters, therefore, less determinately into combination with the blood than alcohol does, and it remains in the tissues less permanently; but while it is present it produces similar physiological effects, varied only in respect to the rapidity of the demonstration. The four stages from ether are the same as from alcohol, and all the attendant phenomena are the same, including the relaxation of the minute vessels of the circulation, the loss of muscular power, the convulsive movements and strugglings,—as distinct from the spasmodic tetanic movements of chloroform,—the final complete insensibility, and, when death occurs, the mode of dissolution.

The special phenomena of these four stages as they are observable during their development by the alcohol are of the most definite and marked character.

In the first stage, the flush of blood in the peripheral surfaces; the flush of nervous action, motor or sensory; the elevation of surface temperature; the quickened motion of the heart; the quickened pulse; the filled veins; the livelier mental expression; these phenomena stand forth in characters so distinct that every person of common faculty can read them. Objectively and subjectively they are equally definite.

In the second stage the phenomena are not less decisive. The fading flush; the falling temperature; the still quickened circulation, with reduced arterial tension; the slight failure of muscular direction and power; the faint mental confusion, craving for some aid from the stimulant itself; the lapses of memory and the restlessness of body and of mind, urging into passion or

leading into stifled and foolish confidence and sentiment, or into unprotected and dangerous boasting; these are phenomena, objective and subjective, which admit of no doubt as to their character and their divergence from nature.

In the third stage the changes of symptoms are gradual in their development, and, shading off in more marked degrees from the second, are sufficiently prominent. They include the pallor of surface; the reduced animal temperature; the reduced motion of the heart; the still more reduced vascular tension; the complete failure of muscular direction and of co-ordination of movement; the palsied state of lip and limb; the obscurity of intellect, with continued irritability or continued and foolish sentimentality; and, finally, the stupor and semi-consciousness which end in restless snoring and semi-convulsive narcotism.

In the fourth and last stage we see the perfected form of narcotism as it is presented by nearly every member of the anæsthetic series. There is the complete muscular palsy and prostration in all the voluntary muscles; the half-paralysis of the involuntary muscles; the irregular and stertorous respiration; the intermitting, enfeebled heart; the pale, death-like surface of the body; the extremely reduced temperature—reduced, as I have myself seen it, 4° Fahr.; the utter insensibility, and the absolute unconsciousness to all external impressions.

In considering the question now before us of the value of total abstinence from alcohol in health and disease, these four stages, induced by the alcohols, let alone a fifth or fatal stage, because of its rarity, should ever be kept in mind. The stages, as I have said, and have elsewhere carefully defined, are common to the action of all the alcohols that I have yet studied, from the methylic up to the amylic. But they differ in respect to continuance according to the boiling-point, vapour den-

sity, and solubility of the alcohol that is in action. They are of quickest development and shortest duration from methylic alcohol, of slowest development and longest duration from the heaviest or amylic alcohol. In brief, the chain of evidence connecting all the members of the alcohol family, in relation to physiological effect from them, and with the analogous ether family, is perfect throughout, with the exception that when the heavier alcohols, the butylic and amylic, are brought into play, there is added to the other symptoms connected with the third and fourth stages, a peculiar tremor which resembles the tremor of *delirium tremens*, and which is developed even in animals inferior to man.

I say it is necessary, in studying the question now before us, to keep the stages of action of alcohol ever in view. I mean those acute stages which are induced by the agent when it is permitted to act up to the point, just short of destroying life, up to that point when actual unconsciousness prevents the intoxicated man from taking a last and deadly draught. For if we do not keep these stages in mind we are unconsciously led, by the prevailing custom of indulging in the use of ethylic alcohol, to forget them or to look upon them as a part of a natural life, as though because they are so often witnessed or felt they are not in any sense very abnormal, or as if they were not parts of a true and unmistakable disease. It is necessary, in fact, to think as though custom had so placed us, in regard to these phenomena, that we had never seen them, and, as physicians, had, all at once, been made familiar with them, owing to the introduction of a sudden and general fashion of taking alcohol. We should then look upon them with very different eyes than we do now, and should be ready enough to recognise them as symptoms of disease. And this is the way in which I wish at this moment to call attention to them—as phenomenal phenomena in nature.

There is something that lies beyond these acute stages, and that deserves equal consideration. It is the study, from a medical point of view, of the same stages in a more prolonged development. The stages as we have so far considered them are limited in their duration by hours mostly, and in their extremest degree by days. The stages as we have now to consider them extend over long periods of years, or may do so. The stages as they have been considered relate to the action of the alcohol on the individual life under its influence. The stages as they have to be considered relate to the action of the agent on collective life, on communities of lives.

To examine this extended series of stages of action we have to divide communities into two classes. (*a*) Those who abstain from alcohol altogether, or who take it in such minimum proportion as not to suffer any marked physiological effect from its use. (*b*) Those who take it systematically until it does produce in them a distinct physiological effect of some degree of intensity. If we make this division carefully we find two distinct orders,—one of the non-alcoholic and one of the alcoholic kind. How these differ I will point out in due time. For the moment I wish to keep the order of the alcoholics alone in view.

When the alcoholics are collectively observed they are seen to present four stages of alcoholic change which in all respects correspond to the four acute stages with which we are already familiar. There is a division of the class which presents in permanent form the first stage of alcoholic excitement. Each day, at one time or other, the members of this division wind themselves up to the first stage until that becomes a part of their ordinary existence. Some content themselves to do this once in the day, after dinner, or at some other accustomed hour. Others do it twice or more; some do it on any occasion in which they are called upon to engage in extra labour, or care, or responsibility, or pleasure.

In course of time, according to the frequency of the repetition, these become the models of the first stage of extended action. They feel a necessity which seems to them urgent beyond control, and they feed the necessity by ministering to it. In extremely developed cases of this sort the body is physiologically changed into a definite organism of a peculiar kind. The vessels are dilated, the action of the heart is either too rapid and urgent or too slow and feeble. The digestion is indifferent until it is stimulated. The mind is dull and inactive until it is stirred into activity. The body feels cold under slight variations of decreasing temperature until it is warmed by the stimulant.

There is no trace of inebriation in this collective stage. It is a stage of moderation. Strictly it is not a stage of health, but it may be so near to a fair standard of health as to seem to some near enough. Suppose a little health be sacrificed to it in one direction, does not the social freedom and enjoyment that ensue make up for the sacrifice? Man does not live by bread alone!

This stage is widely spread in our great communities. It presents a varied range of physical character, from slight physiological derangement to very striking pathological change. We are all aware there are many beginnings of disease within it.

There is a collective second stage which presents, in permanent type, the effect of alcohol carried out of mere physiological derangement into pathological modification. In this stage we have before us many disqualifying conditions against health. The persons so affected now pass through the first stage of alcoholic excitement without being conscious of it. They do not flush so quickly as they once did under the first influence of alcohol, and they are not so excited in mind; but they have nevertheless the same feverish glow, and that glow, which is often unduly prolonged, owing to

the feebleness of their vessels, is succeeded by a more continued coldness and depression. By persons in this stage alcohol is felt to be a frequent daily necessity, an urgent necessity. They depend on alcohol. They are tremulous under effort until they get it; they are easily affected by sense of cold until they get it; they have a knowledge that they cannot digest a meal until they get it, and so they preface each meal by a drink of it; they have a keen sense of oppression after a meal, of oppression in the præcordia, and are troubled with eructations and acidity. They say something they have taken into the stomach has not agreed with them or has not digested, and they take a glass of wine or spirit to dispose of the oppression and to relieve the flatulency in the stomach. They suffer from the passage of a good deal of undigested food into the colon; and from decomposition of such food and fermentation there they feel distension of the lower bowels, with much irregular action of the bowels, constipation to-day, purging to-morrow, and frequent evacuation of peculiar acid and irritating fluid matter from the bowels. They are subject to inactivity of liver, and the kidney is so embarrassed in its function, that they rarely, if ever, show a healthy condition of urine; their urine is usually loaded with lithates, and is frequently charged with uric acid. They are readily subject to rheumatical and gouty attacks, with frequent minor touches of one or other of the similar minor diseases in way of toothache, earache, or neuralgia. In mental constitution they are irregular: now lifted up into passion or hilarity, now cast down into regret and despondency. Under all circumstances they are nervous, in the common acceptation of that term; they sleep indifferently; they are badly prepared for meeting any emergency; they are easily tired, and they are easily curbed after a short attempt at feats of endurance, mental or physical.

These persons constitute such an obvious community

I have to ask your pardon for naming them. You know them as well as I do. Every medical man who has any practice at all has them at all times in his sight. But it was necessary as a part of my proposition to run a line round them, that they may be recognised as grouped and classified. They are to be found in all classes of our society, but perhaps most abundantly amongst those who are removed from want and who rejoice in means to indulge in what they call luxury. They are not a drunken class. Actual drunkenness may be a sin unknown in them.

There is a third collective stage which, as in the corresponding individual stage, is marked by different phases. All in this collective stage are what may be called inebriates or drunkards; but they present varieties of drunkenness due in part to the mode in which the alcohol is taken, and in part to the temperament of the drinker. Those who drink strong spirits, like whisky, to intoxication are, as a rule, fierce, passionate, criminal. They yield the criminal classes from drink in the largest number. They who develop the third stage from taking larger quantities of weaker alcoholic fluids, such as gin and ale, present the sottish, bousy representatives of this stage; the very word 'bousy' being, according to some authorities, the early Egyptian name for ale, derived from Busiris, the town in which the tomb of Osiris is placed. The first of these drinkers most commonly represent persons who are given to sudden breaks-out of drink-mania; who reform for a time and break-out again; who furnish the examples of *delirium tremens*; and who furnish the examples chiefly of dypsomaniacs. These live often longer than their sottish comrades, because in intervals of repentance they allow the organs of their body to regain some fair degree of natural function and of natural restoration.

But in the members of this collective stage there exists some precise pathological state which all but

ıevitably leads to a comparatively early death. They re the victims of one or other of the train of organic lcoholic diseases: cirrhosis, albuminuria, cerebral soften-ıg, fatty degeneration of the heart, atheroma of the lood-vessels, and alcoholic phthisis, diseases we know › well and trace so correctly to their origin. These are ıe victims to whom we object at the insurance offices, nd whose presence on the lists of some such offices ɜnders their returns so unfavourable.

The representatives of the fourth collective stage re the completely palsied from drink, the permanent ɜpresentatives of those who, temporarily palsied after he debauch, were, in a past day, left under the table elpless and miserable. They are the helpless speci-ıens of general paralysis of our asylums, stricken down rom the steady and gradual action of alcohol on nervous ıatter. They are more common in English than in ·cottish and Irish communities, for they are derived rom the drinkers of the less fiery fluids; but their ownfall is as certain, if not as sudden. They are not ıilled, but they live for a season practically dead, and lowly die.

And now I think I have put sharply forward the atural history of alcohol in its effects on man in the ifferent phases of its action, acute and chronic, in-ividual and collective. From this survey we may pass o the practical comparison of persons living under any f these phases of influence with those who live under one of them, and this in relation both to conditions of ealth and conditions of disease.

Let us study the relation of health first.

I take it for granted there is no one here present rho would for a moment think it worthy of considera-ion whether any healthy person or any community hould, for the purpose of conserving health, partake f any alcoholic drink to the extent of inducing the econd stage of alcoholic change of animal function.

I say this knowing, at the same time, how hard it is for those who support the use of alcohol in health to make such a confession. I say it knowing that the admission does by strict logical rule prohibit the use of alcohol, in health, altogether, because it declares that the instrument under comment leads to evil by insensible stages; that the first stage is necessary for the second, and is, therefore, by necessity a part of the evil, though it be in itself free of evil.

I am content, however, to waive this argument for the sake of discussing the first stage simply, and so to carry all with me. I am content for a moment to assume that the first stage of alcoholic action is the last, and that nothing more can come from the use of alcohol than the production of this first stage. Or, to put the matter in another way, I am content to assume that all the world has become so wise in the use of alcohol that no one ever uses it to a degree beyond the first degree; that all are proof against every temptation to its use further than the use that may come out of the limited application now suggested.

Brought to this simple issue we have the effect of the practice of total abstinence on health set up before us on the one side, and the practice of alcoholic indulgence in the most moderate conceivable form set up on the other side.

The position thus plainly stated, my argument is, that in every respect the practice of total abstinence is the best. There is a difference between the two practices which is as distinct as the difference between light and shade; but the difference must be seen, and, I would add, must be felt, before it can be fully realised.

For some years past now I have been able on both grounds named to study the necessary comparison. I have seen the effects of alcohol ever since I have been in practice, but in later years I have seen also, and learned from the seeing, the practice of abstinence, and the conclu-

sions that have been forced on me are as definite as any study of natural phenomena could possibly demonstrate.

It is unnecessary for me to repeat what I have already said as to the physical state of those who are habitually under the influence of the minimum stage, the first degree of alcoholic indulgence. It will be most practical for me to trace out what, from an extensive observation, seem to me to be the special differences between those who do and those who do not systematically abstain from alcohol.

The abstaining class present somewhat differing conditions of health in relation to abstinence. They are made up of different representatives of the class. There are some amongst them who have been so fortunate as never to have tasted alcohol in any form. There are others who have renounced alcohol early in life, or, who being old, have long renounced it. There is a third class in whom the renouncement has become settled, but has been of moderate duration. There is a fourth group made up of those who are in a state of probation; who are trying, for some reason or another, to live free of the fascination. Objectively all these classes are healthier than those who are given to the indulgence. They show a cleaner bill of health, in the regularity of the secreting processes, in the tone of pulse, in the steadiness and firmness of muscle, in the regularity and serenity of mind. Subjectively they are not so distinctly healthy. Those of the two first classes are, but those of the two last classes are not.

They who have only recently given up alcohol, though they be firm of purpose, have still a desire to return to alcohol. They tell you it is a foolish desire, and they wonder why they should feel it, but they do feel it. In fact, they have become changed into the physical alcoholic constitution. Their vessels have undergone change from the action of alcohol, which

like a wedge has found its way causing distension. Their mucous surfaces have become accustomed to the taste and stimulation of the alcohol, and the impression so made is very determinate. Their nervous system has become habituated to the stimulation, and automatically calls for it. All these influences render abstinence difficult, and perhaps they never quite pass away.

The probationers, subjectively, are still more affected. Their experience of abstinence is painful, and they sometimes attribute to it every symptom they feel of an unpleasant character, but especially weariness and a certain want of power in the heart which to them is most distressing. If they are men of courage and of resolute will they fight this out and win. If they are deficient in these attributes they fall back, and on one pretence or another return to the stimulant. To the medical profession this class of probationary abstainers is a calamity, for the members of it are never so happy as when by skilful artifice they can extort from one of our fraternity the permission or the direction to return to a stimulant. This permission they consider the safest of all pretexts for indulgence, and much of the obloquy which the abstaining world throws upon the Faculty for its so-called recommendation of stimulants rests on such intentional or accidental misrepresentation. Nor is it the poor or uneducated or uninfluential alone who will thus try to make the physician the minister to their nervous desires; persons of the highest positions will try the same method, use the same artifice, and even boast afterwards that they have succeeded in pitting one doctor against another until they have bought their indulgence.

It is not fair, therefore, to look for the comparison of health we wish to find in the two last-named classes of abstainers. We must seek for it in the first two. In them we find it, and it is of them I speak when I

ıy that they are the healthiest of all our community nd the happiest. They do not know what it is to feel ıe necessity of the false support. They have at com- ıand more precision, decision, and presence of mind ıan other men. They sleep better, they have purer ıatural appetites, and they are of more equable tone of ıind. Physically and mentally everything is on their de. The motion of their hearts is steadier and more ıduring; their muscles are firmer and stronger; their ecreting and excreting functions are more regular; they ave a clean tongue, a good digestion; and they recover om the injuries of disease and accident with great ıcility. I believe, too, they are less susceptible to acute iseases, and specially to those diseases which arise from bsorption of morbid poisons.

It is commonly urged against practised abstainers ıat they partake of more food and require more food ıan do those who indulge in alcohol, from which it is ɔnveyed, inferentially, that alcohol is therefore a food.

Another common statement is that practised ab- ainers are men of melancholy mood; that they lack ivacity, and wit, and sparkle; that their firesides are heerless and all but inhospitable.

If these sayings were true they would, I admit, ıdicate the presence of an unhealthy condition both f body and mind.

In fact, they are open and ignorant falsehoods, off- prings of prejudice and superstition: 'words, words, ords.' I do not wonder at others believing in them, ɔr I once believed in them myself. Now I know from he best source of knowledge, direct observation of fact, hat they are what they are, untrue. For a month at time I have sat at the tables of hospitable strangers, hanging residence often daily, and meeting large par- ies each time, at which all form of alcoholic drink was xcluded. It was the result of my observation that at ll these parties less food was taken, less luxury of every

kind indulged in, much less amount of fluid imbibed, and in return more genial mirth and more steady happiness displayed than amongst any other companionship in which I have moved. It is quite true that mirth is less extravagant at such tables and more chaste, and that disputation on subjects which excite keenest dispute, such as politics, is less intense, dogmatic, and quarrelsome; it is quite true that passion is more subdued. But these refinements are soon found to be the completest practical attainment of happiness, and to be worth all the rest.

My proposition, then, on the subject of the practice of total abstinence in health would be that it carries with it every advantage, even by the side of the systematic minimised enjoyment of alcohol. By the side of the maximum injuries that come from, and so often spring from, that minimised enjoyment, the acquired craving for the cause of the enjoyment, and the unutterable miseries of its second, third, and fourth passages to disease, crime, and death, the advantage of total abstinence from alcohol is as a passage from death to life.

ALCOHOL IN DISEASE.

It has been shown, on a sufficiently large scale to admit of a fair argument, that disease, using the term in its widest sense, can be treated without the use of alcohol, but I do not wish to consider the matter in this exclusive way. Alcohol, in the character of a remedy, belongs to me as a physician. I have as just a right to it as I have to opium or chloral, if I know how and when to use it properly; if, that is to say, I know its physiological action and understand its therapeutical application. When, however, I speak of alcohol in this sense I speak of it as a distinctive thing. I do not speak of wines, or beers, or stouts, or spirits, which may hold any degrees of alcohol and

number of other substances more or less useful or more or less hurtful. I speak of a thing which I can understand, and which, for good or for evil, is the chief ingredient in all our stimulating drinks—alcohol.

In this spirit of inquiry I have, for three years past, considered the value of alcohol in disease. I have never at that time prescribed the smallest quantity of wine or other drink holding alcohol for its base; but when I have wanted alcohol as a remedy, or have thought I wanted it, I have prescribed it as I would any other remedial agent.

Used in this manner alcohol enters in the clearest way into its true therapeutical position. It is an antispasmodic, to classify it under an old term; it is a paralyser of the organic muscular fibre; and, carried to an excess, carried beyond the first stage of its action, it is a reducer of animal temperature.

In administering alcohol as a medicine the four stages or degrees of its action have still to be borne in mind; but it is not often, if it be ever, necessary to push its use to the extremest degree. It is true that if we had no better general anæsthetic we might be inclined to induce the third or fourth degree of narcotism by means of it. It is true that if we had no better relaxant of muscular fibre we might be led to administer it up to the third or fourth degree in order to reduce a dislocation; or in instances of spasm, such as of asthma, colic, tetanus, or angina pectoris, we might, in the absence of a more active remedy, resort to it in order to produce relaxation. Fortunately, we have at command for all these purposes chloroform, ether, nitrite of amyl, and other similar active remedies. To these alcohol may serve now and then as an adjuvant; but when they are in use it can play no better part; and this is the experience of it when it is administered under the most careful attention to the effect it produces.

After I first made the direct observation that

alcohol reduces the animal temperature it occurred to me naturally, and it has occurred to others, that it might be employed as a febrifuge, for the purpose of reducing febrile heat. I gave to it its full credit in this application of it, and tried its value with every fairness. The result I arrived at in this respect is that, carried to the degree of inducing a fully developed second stage of its action, it does reduce febrile heat, and that carried into the third stage it reduces that heat in a marked degree. But between the production of that effect and the period of first administration the excitement set up is so intense, the motion of the heat is so accelerated, the delirium is so troublesome, the disorder to the digestion so definite, that there is an actual risk in its use. The after-effects, in the way of depression, are moreover of such extreme character that I, for one, would far rather be left to no treatment at all in fever than accept alcohol as the remedy, however skilfully it might be administered.

By many it is held that in some instances alcohol quickens the nutritive processes. When its position is correctly understood there is an argument for this idea. By its paralysing influence on the vessels of the minute circulation it quickens the course of the blood and brings more blood into the peripheral surfaces. Some benefit may result from this use. A few years ago, when I was experimenting with the vapour of nitrite of amyl, some rabbits suffering from an extensive squamous disease, like lepra, were brought to me as pathological curiosities. I placed them one by one in a hutch, the atmosphere of which was kept charged with the vapour of the nitrite. As the animals came under the influence of the vapour the bare patches of their skin where the scales were rubbed off became red, the appetites of the animals began to improve, and in a few weeks every one of the animals was well.

Here an active nutrition was excited from the in-

uction of a freer current of blood by the agency of he most potent known paralyser. Since then, in the reatment of lepra in man, I have prescribed the nitrite f amyl with equally good results, and I have also seen lcohol of use in such cases. In like manner I have seen lcohol serviceable in the early stage of phthisis, and in ther similar instances where surface circulation re- uired a quickened current. In all these examples, owever, the skilled hand of the practitioner is neces- ary for the successful administration. Let the effect roduced pass beyond the required stage of effect, and he remedy is worse than the disease. Leave it to the ption of the patient to take what he likes, in any form e likes, and he had better not be prescribed for at all y that remedy.

There are certain conditions of disease in which the alance of the nervous power over the heart and over he terminals of the circulation is not steadily main- ained. The vessels at their terminals may be unduly elaxed or diseased, and the heart be, relatively, too owerful for them. Or the reverse may be the case, nd the heart at times be deficient in power to over- ome the resistance and induce the vascular recoil. n some instances of this kind the nervous supply to he heart is irregular, and the failure is evidenced in ntermittency in the stroke of the heart. In other in- tances the heart is weakened by fatty change of its tructure or by granular degeneration. In other in- tances still the heart, from its construction, is feebler han the resistance it has to meet.

In these cases, one and all, alcohol is sometimes of enefit, if it be so skilfully administered that it will ot produce any effect beyond the first stage of action. 'ushed beyond that, it is immediately injurious and ven dangerous; and, used by the sufferer himself, it is lways a source of danger; for he, not discriminating he good from the evil, and feeling an immediate effect

that is good, is tempted to go on increasing the dose of the remedy, and thereby the danger to himself.

In these cases, if alcohol be wanted, it should be combined with some other antispasmodic,—usually with nitrite of amyl,—which, in doses of from two to five minims, in half a fluid ounce of alcohol, is an excellent combination.

I found on experiment that when an animal is killed suddenly, as by an electrical shock or by a blow, death by shock or stun, the resistance to the passage of blood is so intense, that it is almost impossible to drive a column of fluid over the arterial circuit. The aorta itself will give way rather than the contraction of the minute vessels. The mode of death, in fact, in these instances is by sudden and determinate contraction of the vessels under the shock to the nervous system. The nervous system is for the moment surcharged, and the effect is direct on the peripheral vascular surface. Under these circumstances the heart, if it shall have escaped the effect of the shock, is powerless to act for the propulsion of blood. To meet an emergency of this kind alcohol stands out as a remedy. It has here a true physiological meaning, and, without doubt, a practical value. In such a case I have often used it with advantage, and should use it again. It acts here as an antispasmodic, a relaxant of vascular tension.

There is another condition in which, under sudden emergency, alcohol is not so distinctly indicated and is not so practically beneficial. I refer to conditions of hæmorrhage. It is the practice, I know, every day to give alcohol freely, and that it enables the feeble heart to recommence work is true. But as at the same time it relaxes the vessels, and opens the way to secondary loss of blood, its use is a danger beyond its advantage. I have published already in the *Lancet* the evidence on which this argument rests, and shall not do more than refer to it now in this brief observation.

From the circumstance that alcohol possesses antiseptic properties it has been assumed that it arrests waste of living tissues, and so conserves the force of life. John Brown, the author of the Bruonian system, seized on this position and made a great point of it in the controversy in which he engaged, and it has since been adopted by many authors. It has been held, even of late, that if alcohol be not in the strict sense of the term a food, it so suspends vital action as to prolong that action, and is, therefore, a conservative remedy.

The evidence on which this argument rests is at best conflicting, and I think I may safely say wanting in proof. The chief point in argument is that some men or women have lived for many weeks, and even for months, when deprived of all support except alcohol. With the usual power and ability displayed by him whenever he contributes to our literature, Mr. Brudenell Carter has maintained this position, and has backed it up by a case under his observation in which life was supported, as he believes, by alcohol. There are usually obvious objections to the evidence given in such cases, and to the inferences drawn from it. The objection to the evidence is that the medical observer is liable to be deceived by the statements of those who have the patient under observation. The objection to the inference is that, if the evidence were true, there is no proof that the alcohol played the part assumed, as distinct from the water that necessarily accompanied the alcohol. In the year 1828 Dr. McNaughten, of Albany, reported the case of Reuben Kelsey, who subsisted for forty-three days on water alone. The facts are as precisely stated as they can be. A man whom I once attended refused all food except water,—and, as far as I know, took nothing else,—and for eleven weeks held on to this resolve before he died.

In the case of the Welsh miners there is distinct evidence that they, during the many days of their incarceration, subsisted solely on water.

We must, therefore, accept the evidence of the value of alcohol in regard to its sustaining power *sub judice*; and when we study practical lessons, where there can be no doubt whatever, we learn to be even more reserved. In the treatment of starvation in cases of stricture of the œsophagus, the very worst types of prolonged starvation, no more injurious practice can be applied than the administration of alcohol in any mode. In such instances alcohol excites the heart, produces febrile disturbance, interferes with the natural secretions, increases cough, and encourages waste. By the side of milk it has no place whatever, neither does it offer a single indication of its value as a food.

In studying the relation of alcohol to disease I know of no other arguments that can scientifically be offered in support of its use and service beyond those to which I have drawn attention. Excepting under the conditions which have been named, in which alcohol may be supposed to play a useful part, but in which I would not even place it, as an absolute necessity, I should maintain that total abstinence from it is as sound a practice in disease as it is in health. Certainly no facts, no series of facts, are more remarkable than those which are revealed when the treatment of disease is observed minus alcohol as a remedy. It soon comes to be a rule, I believe, with all observers who test the point without prejudice that the less they trust to alcohol the less they see reason to trust it; that even in its position as a medicine it is of all the more active remedies the least necessary; and that he who wilfully leaves its use to the indiscriminate charge of the sick or to their ignorant attendants commits a breach of trust which no professional protection, in this day of awakening knowledge, can for any long time excuse, justify, or extenuate.

ADDRESS II.

ON DIFFICULTIES, GENERAL AND MEDICAL, IN THE WAY OF TOTAL ABSTINENCE FROM ALCOHOL.

INCE I became an advocate of total abstinence it has efallen me to gain many new and unexpected experinces. I dare say that is also the fate of many other onverts to total abstinence; but I suppose that a phyician busily occupied in the practice of his profession ıust, by necessity, have experiences which do not fall to he lot of all converts.

Physicians are led to observe various physical and ıental phenomena which escape the attention of less rained observers. To physicians is communicated ıowledge on subjects of life and health which is not ırdinarily imparted to the other members of the comnunity.

When, therefore, a physician begins to investigate ıew facts, or, it were more correct to say, when he ›egins to investigate old facts which have been allowed ›o escape his attention, he soon acquires a practical ⁄iew of the subjects that come specially under his eye, vhich view gives a new series of lessons for him first to earn and afterwards to teach. One of the most important ›f the lessons thus taught to the man engaged in the ›ractice of medicine has relation to the difficulties vhich lie in the way of the practice of temperance.

I fear it is too often a practical error on the part of hose who are ordinary, regular, and steady abstainers to ignore these difficulties, or to pass them over too

lightly. It is impossible to blame abstainers for this, because they really are not in fault. On the contrary, what they do and say only indicates a watchful enthusiasm which, rightly managed, may be turned to the most useful account. The error to which I refer springs, indeed, from their own perfect freedom of will and the liberty they feel in the enjoyment of that freedom.

Abstainers pass through the work of each day, labouring perhaps from early morning until late at night, feeling at no time whatever the necessity for any sustainment beyond the ordinary food. For them to take a something that would put them into a fitful fever, set them aglow, and leave them depressed and lifeless, would be a kind of insane waste of power. They are not creatures on whose vile bodies a persistently repeated series of physiological experiments, illustrating the same renewal of disease, with an increasing ratio of intensity, has to be self-inflicted.

They find their minds active enough without any such experiments, and with their activity they feel a mental repose, and a freedom from excitement and anger, which is to them the amplest recompense for what others, less fortunate, call by such names as hilarity, jollity, and flow of soul.

They find, moreover, a better physical health than they hear expressed by others less temperate than themselves. They are better and more evenly nerved. They may never be strung to the top of the register, but then they do not sink to the bottom; and in the happy mean of limited range of compass they find the force of action that always lies in the mean. Good physical health attends them in all seasons, periods, and ages. They are best protected when the season is cold; they are least oppressed when the season is hot. They fall into periods of sleeping and wakefulness with as much natural facility as the cares and

labours of the world will permit. They find that age comes on them with comparative slowness, and is bereft of many of the fretful and wearing reminiscences that so often go with it.

Again, they who abstain experience morally what it is to be entirely free from a self-inflicted necessity. We are all too apt to make necessities, and, therewith, sorrows. If we trace back steadily and fearlessly the causes of most annoyances and sorrows, it is astonishing to find how many of them were self-made and altogether unnecessary. We train ourselves to something which we do not really require, and when we fall out of the training we feel that sensation of something lost which is the cause of all sorrow. Nothing is really sighed for from the heart but that which is lost. And even though the loss be of no more substantial a kind than an ambition for what has never been possessed it is none the less a loss to him that has sighed for it. To my mind, the truest cause of sorrow is to see how the world makes sorrow; inflicts it, self-inflicts it, harps on it, buys and sells it, and, worst of all, enforces it on those who are in the dawn of life; sows it, as a seed is sown, and afterwards, when the crop is fully developed, mourns that the nations should be so sorrowful.

This in parenthesis. I am treating now of the burden from a self-imposed training in strong drink, and I am about to say that those who abstain experience, morally not less than physically, the benefits of their freedom. Such experience is not in the least of a pharisaical order. It is the experience of moral health based purely on the freedom from a physical provocation to immorality. It is not that the abstainer is by his own nature one jot better than his fellow-men, but that he is not led into temptation by an agent which, of all others, leads men into every temptation. It is the most frequent of all apologies for immoral or

feeble conduct that it occurred under the impulse drink. The apology shows the influence of the ag on the moral nature of man more forcibly than the m vehement declaration against it. But who ever hea as an apology, that any man's immoral or feeble c duct was due to his sobriety? Who, on the ot hand, ever heard a single moral virtue attributed the use of strong drink? Who has failed to hear the vices that are attributable to it? Who,—drunka half-drunkard, moderate drinker, strictly temper man, total abstainer,—is not certain that sobriety a morality are too closely blended to be easily separal and that there is no such physical basis of morality sobriety?

They who are free of the influence of this pro cative to immoral pressures are, of necessity, consci of their freedom. They may, like Hamlet, be ready say they 'have more offences on their back than tl have thoughts to put them in, imagination to give th shape, or time to act them in.' Anger, lust, falseho boasting, cowardice, idleness, jealousy, envy, hatr malice, and uncharitableness may be some of the vi that enter into their nature; but these vices are i fanned into activity by the stimulus of wine. T temptations for the display of the passions are stro enough without the stimulus perchance, but they do i float into the man in the tide of strong drink. Th is, therefore, one aid to temptation removed, which a blessed removal, and for which the person who fe the blessedness is apt to think that there are no e pressions too strong in favour of the advantages abstinence.

Once more, they who abstain are obliged to lea whether they desire the experience or not, that th abstinence carries with it certain substantial advanta of an economical kind, which stand out in contrast, the most definite form, with much that they see arou

them. A fifth or sixth at least of their expenses are saved in the year, and life, which would often be a burthen intolerable to be borne with this added weight upon it, is made fairly easy, even to those who are oppressed from limited means. Amongst those who have competences the relief from the load of expense saved by abstinence is utilised in various pleasant ways. One man finds his liberal hand to his fellow-men more liberally charged. Another who aims at luxury and position sees, to his delight, his carriage rolling down the highway by the means which would have simply carried away a little more sewage from his house if he had expended the sum which the carriage costs on wines and other supersensuous beverages. A third lays the saved money safely by, invests it in some useful and profitable undertaking, and knows he is providing for the time when his hand or mind will lose the power to work. A fourth expends the money that might be so easily devoted to the sewer in educating and bringing forward his children. A fifth makes his residence more useful by its library of knowledge, or more beautiful by the added treasures of natural and human art.

Through every class of society into which the principles of total abstinence have penetrated, and in which they have taken steady root, these experiences abound. What is more, they abound without any alloy. No man, woman, or child who has once fairly tested these principles feels anything but the goodness of them. The taste for the lost constituent of the sewer, once broken completely, or, better still, never known, is never dreamed of as a necessity of daily existence.

Nor is the experience thus described limited by rank or social position. The rich man tells you how much more easily his own wants are supplied, and how much more intelligently and safely they are ministered to by abstainers. The officer in command of a regiment of abstaining soldiers or crew of a ship tells you that his

labours are reduced to such an extent that they become a pleasure as well as a duty. The superintendent who has numbers of abstaining workmen under him tells how men sing at their labour who once cursed and grumbled and quarrelled. The workman takes you to a home and fireside to which he need not be ashamed to invite the wisest and best of the land; a home in which thrift ensures security of possession, security happiness, happiness hope, and hope prosperity, with certainty of promotion in the social scale.

These experiences on the part of persons who abstain are heightened in effect by another order of facts, which at the present day cannot fail to be observed and commented upon. I mean the facts of crime and misery connected with intemperance. In some happy time the facts I refer to will be faded illusions, known only by history, read not realised. Men will look at them as through a transparency, and will fail to see them in form or outline as distinct from the rest of animated life. But now the facts are so sharp as to be visible to the dullest eye, because of that dense pall of intemperance which forms the awful background to the picture they produce. I am not going to attempt to depict the misery that stands out in that blackness of darkness. The hand of the most skilful delineator of this picture,—the marvellous hand which now lies motionless, which but a few days ago it was my sad duty to hold in death, and which is still unburied,—the hand of George Cruikshank, has depicted it for ever with a fidelity which the words of the most consummate master of language could do no more than confirm as living truth, and could never approach as descriptive of the dread reality.

The total abstainer sees the two parts of the picture as it is presented, the light as well as the shade. He feels the light, lives in it, is a part of it. Is it wonderful that he should be enthusiastic in his devotion to the act of extending it? Is it wonderful that he

should do his best to make the light force itself into that dense pall and dissolve it away?

I do not think there is anything wonderful in what is even called fanaticism in so grand a cause. Fanaticism in its day has won a great deal for mankind. Fanaticism discovered the New World. Fanaticism abolished the slave trade both in England and America. Fanaticism pulled down the feudal strongholds of tyranny. Fanaticism reformed those centres of loathsome pestilences, the gaols of England. Fanaticism abolished the Corn Laws. And, if fanaticism could convert England and all the other countries it touches from intemperance into soberness it would only be continuing its truly beneficent work.

In the progress of the temperance cause, here as elsewhere, there are certain truths to be remembered which, unless they be remembered, the cause must progress less rapidly than its enthusiastic supporters desire. The truths relate more particularly to the difficulties which lie in the way of abstinence. The difficulties are of a kind which the practitioner of medicine is most likely to be familiar with, and it is to the consideration of these difficulties and the best way of meeting them that these addresses are devoted.

THE MEDICAL DIFFICULTY.

Let me begin with a primary difficulty which we often hear advanced, and which relates to the initiative action of the profession of medicine in favour of total abstinence. It is insisted on that the difficulties in the way of total abstinence are increased by the apathy of those whose lives are given to the cure and prevention of disease. If, it is said, the medical profession as a body would support total abstainers out and out, their cause would progress with unparalleled rapidity. It may seem strange to some ears, yet I am bound to express the conviction that such a sudden change of

sentiment on the part of a great and noble profession would not be, in effect, what the earnest and enthusiastic sustainers of abstinence principles expect. Such a change would indicate a fever, not a *bonâ fide* conversion.

The profession of medicine, it must be remembered, is of all professions the most constantly responsible, and responsible, too, in the dearest interests of humanity. 'What will a man not give for his life?' is a proverb that is ever being proclaimed to the professor of physic. It is never out of his mind. To him, therefore, rapid and radical changes, affecting possibly the lives of men, are changes always attended by doubts and anxieties. The physician, of all men, must indeed be convinced before he commits himself to the practice and inculcation of what is new, and of what in this case is not only new but foreign to the feelings, the tastes, and the beliefs of a large majority of those who surround him.

In plain words, the medical mind, like that of every other professional man, must be in accord with the mind and current will of the majority of the nation. In this regard it is in precisely the same position as the mind of the statesman, with the important difference that it is infinitely less powerful and far less independent, having to live by its work and to be a paid as well as a public servant. The verdict of the large majority would, therefore, influence the profession of medicine, even if the mind of the profession were as universally convinced of the whole truth of abstinence, as the minds of some of its members are, and especially at a time when the public feeling is sensitive on the subject under consideration. For this is the peculiarity of the world alcoholic, that it fails to believe in itself on this question, while it acts as if it believed. In its soul it knows itself to be wrong in respect to alcohol. This is unavoidable, because Nature never made a single

living accountable being to believe solemnly in wrong instead of right. If she had done so she would have left conscience out in the cold, instead of placing it in the inmost recess and very citadel of the human heart.

As I touch this chord I sound a keynote on the temperance question.

It is one of the grand difficulties of learning to abstain, to learn how to declare the fact of personal abstinence and to let the daily life be the daily record and outward and visible sign of the fact. There are millions upon millions who, directed by conscience alone, are quite aware that they are doing wrong each time they take a cup of alcoholic drink. They would like, indeed, to abstain, but, in plain truth, they dare not. In so far as their own personal lives and healths are concerned they dare, but in so far as their own appearances in the eye of the world are concerned, and the figure they will cut, they dare not. Therefore they go on as the world goes on. They link themselves to the world, and they defend themselves to the world, if not to themselves, by the sentiment of the majority. Some of them rest on sophistical argument of a keen character for support. 'Universal error is practical truth,' says one of them. 'You are right,' says another, and so the universal error is fostered and propagated. Under such a social *régime* it is not to be wondered at that the professors of physic should have more difficulty than the rest of mankind in becoming the champions of total abstinence. The doubting mind that is out of the ranks of medicine, and that exerts itself in some other mode for maintaining ways and means than by the art of healing, may give way to doubts as to the good of a widespread and long-favoured practice. It need have no fear that the declaration of the doubt will lead to a deficit of the ways and means at the end of the year. The healer is not so circumstanced. His declaration extends from himself to all who come under his professional adminis-

tration. A hundred doubts are raised by one that he may suggest.

You say, you who are free, that thereby the healer holds a power of a hundredfold strength. So he does, perhaps a thousandfold. You say, you who are free,—you say, perhaps, 'Oh, had I only so much power, with what pleasure I would use it!' I am not so sure of that. Some of you would, but not all. The possession of power is oftentimes a reason for failure in the exercise of it. So much the power, so much the courage that is required to bring the power into activity.

And then, again, right across the effort, there stands the danger of the possible failure of it. Universal error, even when admitted, is hard to clear away. It is like clearing snow from the top of your house. It is a very comfortless job; and however deftly you may do it, you are pretty sure to let a few shovelsful of discomfort come down on somebody's head, for which you are held responsible. So a good many people, with snow on their houses, foreseeing that some day the snow will melt, run all risk from it, and leave it to natural courses to clear away. Unfortunately, the evils from alcohol do not go away by natural means, but once fixed, hold firmly, and increase. Some one, therefore, must undertake the task of removing the difficulties, or there is no chance of improvement. It would be well, says the abstainer, if the medical body, which knows most about human life physically, good and bad, could, as a body, undertake the duty.

To many minds it appears as if this was the natural duty of the body medical. That is not my view. I think it would be an impossible duty for Medicine to undertake, because she is not the master of, but the administrator to, the requirements of mankind. She cannot even save life beyond the extent to which she is permitted. She must walk gravely by the side of the time. She can afford to give up a few enthusiasts from

er ranks for any good cause, and let them take their hance; but if she were to become enthusiastic generally efore they had tried the way for her, she would be liable o discredit, and would not influence so much as she does y the quiet and philosophical course she pursues.

At the same time the professor of the healing art, ho would be inclined to take part in the great cause f the reformation of the world from the hold of strong rink, need not let his guarded neutrality be in opposiion to that reformation. Views are changing very fast ndeed, and to be five or ten years in advance is not of ecessity bad policy. The medical advocate of total bstinence of to-day is not in the position of such an dvocate of ten years ago. He has now a certain ollowing, wherever he may be. That following tends o increase day by day, and by and by the danger of alling out of public esteem may be not with him who s in the front, but with him who is in the rear of the bstinence movement.

On the whole, the great community of total abtainers may, I think, be well content with the course hat matters are taking as between the main body of nedicine and themselves. Every week is bringing ome new medical man into the ranks of abstainers, nd all are most carefully and conscientiously observing. he members of the profession are ever open to coniction of truth—no body of men so open; without eing rash they are courageous, and far more of them re quietly teaching the temperance cause, in their wn way, than is commonly supposed.

It is not the first time in the history of human proress that the profession of medicine has been in the ame position as it now holds in respect to a strange nd absurd popular superstition. I can myself just emember what I may call the tail of that singular deusion which for several centuries swept over men, and hich is still, in countries less advanced than our own, not

quite extinguished. I refer to the practice of abstracting blood from the body: abstracting blood not merely as a mode of curing some kinds of disease, but actually as a means of preserving people in health. I have seen a day-book of a country surgeon which was in its time used to show the annual profits arising from what were entered as the 'spring and autumn bleedings.' The young of this generation will hardly credit the fact, yet fact it is, that within a century from this time, nay, I might almost say within the present century, men and women went to the doctor as regularly every spring and fall to be bled, whether they were well or ill, as they went to their landlords to pay their rent. It was a fixed business for the Faculty to bleed twice a year.

I heard an old farmer once say that he always went to be blooded when his sheep were washed in the spring, and when the 'Statutes' were held in October. He believed October was rather later in the year to be blooded than most folks liked, but it suited him to go to the doctor at those times, and he 'didn't suppose it mattered much when it was done like, so long as it was done regularly.' I, then a young Æsculapian, learning to disbelieve in that singular superstition, as I now have learned to disbelieve that *eau de vie* is veritably the water of life, ventured to advise my patient,—who by this time had his shirt-sleeve turned up and his own piece of tape out for the fillet,—ventured, I say, to advise my patient that he had better not be bled, that the views of men were changing, and that the process would do him no good whatever. 'Save your blood for a rainy day,' I said; 'some time you may be ill and want it.' No licensed victualler could turn on me to-day, for doubting *eau de vie*, with more utter and contemptible scorn than did that irate farmer who wanted me to have his blood. 'What,' he said, 'not be blooded at fall-time? Don't you think I mean to pay you?' I expressed that such a thought was furthest from my mind, and that

my objection was offered on principle. My words had no effect. He had been bled spring and fall before I was born, and he would be to the end. He would go to a doctor who had more experience and more common-sense. He went, and I have every reason to believe he kept his word until the end of the chapter.

I remember another instance in relation to the blood-letting business, which is instructive in the moral it teaches. It was an instance in which a young surgeon refused to bleed, and after the refusal the patient died. Straightway some of the friends of that patient who had strongly urged bleeding insisted on prosecuting the young surgeon for *mala-praxis*. At that time so strongly was the popular voice in favour of blood-letting, that if the trial had proceeded I have no doubt it would have gone against the surgeon, for the medical evidence would have been as six to one in favour of the necessity of the practice of taking the blood. By good fortune a much wiser friend interfered, and the proceedings were not taken. In the present day if a surgeon were to take blood in a similar case he would be open to a charge of *mala-praxis* for the very act.

In comparison. Within the last few years a broken-hearted father consulted me whether he could not prosecute one of the most estimable and able men in medicine, who, in treating the son of the complainant, had refused to prescribe wine 'until it was too late.' Another practitioner had been called in, and had administered a bottle of wine, which failed, 'because it was too late for it to do any good.' Less conversant at that time than I am now with the action of alcohol in such a case, I strongly and effectively protested against all idea of worrying an excellent and good man, who I knew had done his duty; while in my own mind I reserved the reflection that possibly he was wrong. Now I am as clear as I can be on anything that the bottle of wine, if it were not the destroying agent altogether,

turned the scale, and rendered what was a possibly f
a necessarily fatal termination.

These evidences are useful as bringing out in str
relief the medical difficulties that relate to all g
changes in habits affecting life and health. Tal
blood-letting as an example, we have learned that
though the professors of medicine did not, and, ind
could not, give up the wholesale practice at once, t
did gradually entice people to do without it, as a reg
thing, reserving to themselves the right to use it
remedy, and a very splendid remedy, in certain partic
instances with which they, as men of science, are fami
In my opinion, the same course will be followed, ar
being followed, in respect to the use of alcohol.
profession will steadily, and without any compron
discountenance the use of alcohol as a regular ar
necessary thing for men and women in health, w
they will reserve the right to prescribe it in sickne
they would any other medicinal thing which by sci
and experience has proved serviceable in the hands of
physician.

In one particular I think the modern representat
of medicine might take a lesson from their brethre
the olden time. In regard to the practice of bl
letting, the old doctors did certainly set a fine exam
They never let anyone practise 'the spring and fall' bl
letting upon themselves. They therefore stood forv
as good examples of the fact that men could live perfe
well without being subjected to the process in quest
and in so far they were shining lights in the high
of a grand reformation. If every modern doctor w
shine forth in a similar way towards another refor
tion, and would show how splendidly he himself can
and work without alcohol, the way to total abstin
would soon be tremendously brilliant and marvellc
attractive.

I might add a great many more details on this t

but both time and circumstance point out that it were better to consider briefly how a few difficulties are to be dealt with practically. The summary, perhaps, of my advice to temperance reformers on this subject would be to let the medical difficulties, such as they are, adjust and solve themselves. They will do so; for if we who believe in total abstinence have the truth on our side, as I am sure we have, we require but to hold to it firmly, and the whole world will be sure to come to it. There are, however, a few points of a practical kind which have been forced upon me to read, mark, learn, and digest, and which it would be wrong to let pass unnoticed.

THE MEDICAL ADMINISTRATION OF ALCOHOL.

In the first place, let me say, as a matter of experience, that to cease to prescribe stimulants is not anything like so difficult a process as it seems to be. It constantly happens in life that we are held back from carrying out some extremely important purpose by some extremely insignificant obstacle. There are times when the smallest dread of remark on the exhibition of any peculiarity is a direct impediment to the realisation of a long-contemplated design. There is a condition of getting into the habit of harbouring these feelings of doubt, which habit confirms the state of doubt and keeps the mode of life and of thought on one plane. It is to be noticed too that the most sensitive natures are the most scrupulous and conscientious. 'They fain would climb, but fear lest they should fall.' And then, remembering the added royal message, 'If thy heart fail thee, do not climb at all,' they do not climb. The level ground is clearest, at any rate, and the company upon it includes the most numerous and most influential. They are in good company, and therewith safe. Why should they make a move which will attract general observation?

When I, on my own part, had learned to abstain from alcohol, I was not without misgivings as to the propriety and correctness of letting my conviction extend beyond my personal self into my professional self. I fancied there would be endless difficulties in carrying on practice under a method that failed to include in its details the use of alcoholic stimulants. I dare say if I had lived in the midst of the time when blood was drawn twice a year, I should have declined personally to have partaken of the privilege; but I am not at all sure that I should have declined to give others the disadvantage of it, when they insisted, and all the world approved.

For this reason I felt a prolonged hesitation as to the course I ought to pursue in respect to the administration of alcohol. At last I solved the difficulty in a simple and satisfactory manner. Feeling still in doubt whether alcohol, which I knew to be hurtful, both as a beverage and a luxury, to men who are in health, might not be sometimes useful in disease, I determined to separate it altogether from the idea of wines, ales, spirits, and the like, and, whenever I did use it medicinally, to prescribe it in its pure form, as alcohol, and thereby as a medicine; just, in fact, as I would prescribe any other medicinal substance. By this method I made what I think to be two useful advances. I distinguished between the improper administration of alcohol as a common drink, and its proper, or possibly proper, application as an occasional medicine. Again, I began by this plan to learn, and in a clear and scientific manner to prove, the real value of alcohol as a remedial agent. Hitherto when I had ordered wine or other strong drink, I had no correct knowledge of the amount of alcohol contained in the quantity ordered, nor of the true amount taken by the patient, whose glasses and other measures differed materially; nor of the nature of other chemical substances which are mixed with the alcohol in the

ommon spirituous drinks, ethers in wines, œnanthic ther in brandy, fusel oil in whisky, and so on. But ıow I had before me the action of the real Simon Pure, .bout which there could be no mistake in respect to lose, quality, and purity.

Under this plan all difficulties have passed away. I still prescribe alcohol when I see the necessity for its medicinal service, and I am quite sure I prescribe it with a precision with which I never prescribed it before in my life. It is just also to say, and most encouraging to say, that I have rarely found the slightest obstacle put in the way of this practice by anyone. Once or twice I have been told by those who loved wine so dearly they did not like to separate from it, that they could not see the distinction between prescribing alcohol and ordinary wine; but these obscure reasonings have been limited, and I am certain that if every physician, whether he be an abstainer from it or not, would begin to prescribe alcohol on this plan, he would never depart from the practice, because it is so common-sense and so accurate. It is using a remedy, as Sir Thomas Watson aptly says all remedies should be used, as 'a weapon of precision.'

It is not necessary for me to repeat what I have already said on the action of alcohol, as used in this manner, in the treatment of disease. I may nevertheless record one or two general facts. In the first place, I may record that under this guarded mode of using alcohol and observing what it really does as a remedy, my dependence upon it has very greatly diminished. In proportion as that dependence has been given up, my wonder has increased at the good that has often followed from doing without it. Speaking for myself alone, and specially guarding what I say by making the opinion purely individual, I conscientiously declare that, although I might in rare instances be obliged to substitute some other similar agent for alcohol, if it did not exist at all, there is

scarcely any drug I could more easily spare. If it had never been discovered I do not believe that medical science would have suffered one iota from the absence of its direct use; and if it were never directly prescribed again I doubt whether any loss to the sick would be sustained. At the same time, on the principle of giving the 'devil his due' even in solution, alcohol must not be deposed from its right place. It is an admirable solvent of many medicinal agents; and as the starting-point for the manufacture of chloroform, ether, and other chemical medicinal substances, it is of the utmost value. But these are its legitimate as distinguished from its injurious applications.

The point I have endeavoured to make in these last remarks is that the difficulty which at present exists between the daily-increasing abstaining community and the profession of medicine is easily solved in respect to the use of alcohol. It is solved simply by the physician making, and the abstaining public accepting, alcohol as a medicine, in the same way as chloroform or any other derivative of alcohol, or any other medicinal agent, is accepted.

We see frequently in the public papers notices of altercations that are going on, in our great charitable and other public institutions, between the managers and the members of the medical staff as to the use of alcoholic drinks. It sometimes happens that the managers, one or more of them, complain of the medical officers for ordering these drinks. Then arises a medical argument in favour of the drinks, and a lay argument in denunciation of them. In other instances the position is reversed. The medical officer is a total abstainer, and some poor soul who wants to be saved by *eau de vie* or wine appeals to the sensitive heart of a well-disposed manager, who straightway accuses the medical officer of riding hobbies to death, of carrying his particular views to oppression, and of being a man

unfit to hold his position as a public servant. Then occurs a medical argument against the use of alcoholic drinks, and a lay argument in favour of them, followed up frequently, as a rider, by a burning theological argument;—the whole a bitter controversy. I am speaking within bounds when I say that scarcely a month passes which does not bring me a letter asking for opinion or advice on some local dispute that has originated in this fashion.

Such a controversy, I repeat, is bitter, and, I will add, unnecessary. It might be settled at once in every case by simply letting the medical officer of each public institution use alcohol,—not wine, or brandy, or rum, or whisky, or gin, or hollands, or ale, but alcohol absolutely,—as a medicine: a medicine furnished, not to the cellar, but to the dispensary; dispensed not by the housekeeper, or the storekeeper, or the steward, or the matron, or the nurse, but by the apothecary; and meted out not by the free-and-easy filling up of the gill, the quartern, the wine-glass, or the tumbler, but by the fluid drachm or the fluid ounce, accurately measured, and precisely admixed with the water that is required to dilute it.

By this simple system there would be saving of expense, precision of application of the article expended, precision of observation on the efficacy of the article expended, and avoidance of those recriminations which are so hurtful to all institutions founded for the relief of the weak and the suffering.

As an illustration of the difficulties which lie in the way of medical men in practice, and as an illustration of the point now under consideration, I may refer to a note I have received while this lecture was being prepared. It is from one of the most earnest total abstainers in Ireland, and it encloses a note from his son, who is a surgeon in the Royal Navy, and also an abstainer. The surgeon says that in the West Indies the

stokers on board ship, who have often to work at temperature of 140° Fahr., come up 'quite collapsed and throw themselves on the deck half-dead.' Th engineer will give them a glass of grog from his ow flask, which will revive them at once, and enable ther to finish their watch below. His (the surgeon's) pre decessor did not order a double allowance of grog unde these circumstances, and it is believed that, therefor many stokers went on the sick list. The Fleet surgeo a very temperate man, and of large experience, say he always found that total abstainers stood the hea much worse than the men that took their grog, an that the only stokers who went on the sick list were th abstainers. 'This,' adds the writer of the letter, 'i important evidence'; and then he puts the difficulty What shall he do, conscientiously, in such a case o difficulty?

To that my answer would be simple enough. admit that the evidence above stated seems striking But there is another side. Men in this country wh are working at furnaces, in gas works, in foundries, i glass works, in steamers, show evidence that their wor is better done without spirits, and that the drinkers o spirits are those who fail and sicken first. The evi dence, therefore, is altogether conflicting. Let it pass a in that position, and let it be tested further, but no by grog, which appeals to the appetites of the workers without any necessary reference to their urgent physica necessities, until the necessity is proved. To the office I have referred to, and whose candour we must all ad mire, I should respectfully say, prescribe the stimulan until you satisfy yourself by a sufficient number of ob servations whether it is or is not useful. But prescrib it as a medicine, do not permit it as a beverage. Pre scribe it as *alcohol* from the dispensary. Learn th exact quantity that is necessary to produce the require effect, and then you will discover, and in no other way

whether the good attributed to grog is due to the alcohol it contains, or to some other agency.

This is the scientific and, as I think, the common-sense mode of procedure.

MEDICAL CONFERENCES ON ALCOHOL.

There is one other topic on the relation of total abstinence to medical science, to which I would refer before I close on this head. It relates to what are called medical conferences on the question of abstinence. I am every week or so being invited to take a part in a public medical conference, and in such conference to speak on the side of total abstinence. My time is too much occupied to be able to attend these meetings; but if it were ever so free, I candidly admit I should feel great hesitation in giving attendance. This may seem an error of judgment, but experience day by day shows me it is the only correct course to pursue. I am obliged to state my earnest conviction,—and I should be a false friend to the cause we all have so much at heart if I did not state it,—that public medical conferences on the alcohol question are unadvisable.

It looks at first sight the most natural thing in the world and the most useful thing for the public to call a number of medical men together, to set them discussing the *pros* and *cons* of the alcohol controversy in its bearings on health, on disease, on life, and to listen to the argument as a jury might listen to the pleadings of counsel in a court of justice. The appearance of such a proceeding looks well in theory. In practice it is worse than useless. It cannot be otherwise. So soon as medical men begin to discuss this question on adverse sides they begin, of necessity, to discuss the matter in their own learned way, which way the public do not understand. The opponents pit experience against experience; the *post hoc et propter hoc* mode

of declaration gains full ascendancy; while the arguments either way supplied from exact experimental science are, owing to the limitation of time given to each speaker, imperfectly laid out. The result altogether is as unsatisfactory as if a sixpence had been tossed and the turning up of heads or tails had settled the dispute. The man who can speak best on either side, whether his reasoning be soundest or not, has a preponderating advantage by his mere gift of speech. The man who can reason most ingeniously, whether his reasoning be sound or unsound, has a preponderating advantage. The man who is best known locally, and in whom the public has what it calls 'the greatest confidence' in medical matters, exerts, whichever side he takes, a special influence. Meanwhile the public that is listening is not in the arcanum. It commonly loses all interest in the course of the debate, and it rises asking once more and once more the old question, 'When doctors differ who shall decide?'

In making these observations I am not speaking with the view to discountenance sound and reasonable discussions on the question of total abstinence amongst medical men themselves when they meet for mutual improvement on important public occasions. I am sure that the honoured President of the National Temperance League, Mr. Samuel Bowly, has exercised the wisest discretion, and has effected the greatest good, by his courageous and straightforward action of inviting large numbers of the medical fraternity to meet him and the Council of the League each year to the solemn consideration of the great question which he leads with so much earnestness, honesty, and judgment. Such gatherings of learned disputants offer fair opportunities for discussion, and the good that results from the effort is each year more distinctly marked.

My argument is solely against the mixed medical and public mode of discussion, as a mode impossible

good and productive often of injury to the cause of bstinence.

The truest and best application of medical learning nd ability to the cause of temperance lies in teaching he truth, not in arguing upon it or trying by forensic ather than educational skill to confound the subtle opponent and astonish the unsophisticated and admiring uditor. In the work of teaching every medical man who has the cause of temperance at heart is a host in himself. Would that every such man would become a public teacher.

Every medical man who joins the cause of abstinence, and who makes his life an example of its goodness; who devotes his intellectual powers to the investigation of its truth; who gives his best energies to the study of expression in language, spoken or written, of the results of his inquiries; and who, by these simple but incisive methods, becomes an advocate of our cause, is worth many ordinary advocates, however accomplished and good they may be. He learns in a school that is closed to other men. He teaches in places that are sealed to other men. He can say at the precise moment to the individual what no one else may know that it requires to be said; and when he appears in public he can speak to the public on the physical side of the question with an authority which no one else less learned can venture to assume, none less educated can successfully dispute.

In conclusion, the difficulties that lie connected with total abstinence and the medical profession must be allowed to pass away under the direction of the profession itself. They will pass away by this means. One day it will be gladly accepted and proudly declared by the medical body everywhere, that in the great war against intemperance, in the great revolution that enthroned total abstinence, the sons of medicine were in the van of the victorious fighting men. If, then, recog-

nition and grateful remembrance in his silen
be an object of hope to any representative of t
ing art, let him forthwith put his hand on hi
and, looking not back, see straight before l
certain and noble place in that magnificent sile

ADDRESS III.

HEREDITARY AND ACQUIRED DIFFICULTIES IN THE WAY OF TOTAL ABSTINENCE.

his address I propose to consider some of the per-
l difficulties which lie in the way of learning to
ain from the use of alcoholic drinks, and the best
es of removing or lessening those difficulties.

HEREDITARY DIFFICULTIES.

In treating of the difficulties of a personal kind we
I think, bound to admit the fact that hereditary
ensity to the use of strong drink exists. I thought
or three years ago that hereditary tendency exerted
eponderating influence in a large number of cases,
I was for a time content to accept this inference on
neral rather than on a particular series of observed
. A few rather startling assertions, as to their un-
mate inherited propensity, made by persons who
too fond of the cup that kills, and which asser-
were not borne out by a correct narrative of their
ly history, made me in time more cautious in coming
nclusions, and induced me in all alleged instances
ie kind to set down the details I could obtain in
order for systematic investigation.
The result of this method of research has been to
me that it is very easy indeed to fall into error
his subject. It happens that many who indulge

freely in alcoholic drinks, and that some who ind moderately, but with a decided relish for the indulg excuse themselves on the ground of an inborn or l ditary infirmity, for which they allege they are accountable, and over which they have no suffi natural control. 'I have a strong desire,' says one take to total abstinence, but my father and grandfa had such liking for drink that the actual desir it is, as it were, engrafted in my nature.' 'Alas! a family failing,' says the friend of another pe 'and he or she cannot grow out of it.' So excuse excuse is offered, and the faithful inquirer who w to obtain the precise truth has to get to the botto it as best he can by seeking out all the evidence the utmost circumspection.

It turns out in a great number of cases tha evidence supplied does not support the excuse a but that the excuse is really made in order to ex away, plausibly, the weakness of him or of her has made it. It turns out in other examples tha excuse carries with it an exaggerated view of the clivity, and is again used for the purpose of actin a salve to the conscience of the person who offer In a third class of persons who allege the proclivit excuse is presented that is plausible, but is not posit sufficient. In a fourth class the excuse is valid, an a large extent sufficiently valid, to account for n that has occurred and is occurring. Lastly, there believe, a small class of examples in which the procl amounts to a true insanity, and in which it render afflicted actually irresponsible when the temptatic drink is thrown in their way.

You will see from these observations, every o which rests on carefully observed facts, that the so commonly held of persons being born helpl afflicted with the taint of alcoholic disease must b ceived with extreme caution. It will be seen that t

many shades of this proclivity, even when it actually ists. It will be seen further that the proclivity is en assigned as a cause of mischief when it does not ist at all.

For these reasons it is dangerous to assign to this fluence too great an importance. It ought to have signed to it its precise importance, and nothing more. lmitted too readily on loose evidence, it does harm in double sense. It affords too often to weak and irrelute persons who wish to be abstainers the most ausible of false arguments for non-abstaining, and it ts on teachers of abstinence detrimentally, by leading em to fear that all their efforts are being frustrated a natural inheritance of evil over which no words, entreaties, no reasonings can exert a controlling or irecting force.

That the existence of the difficulty to which I now irect your attention, and which I have in other adresses described and earnestly tried to depict, should ot be unduly exaggerated, is proved by one line of nclusive evidence of an historical character. It is is. Two generations ago there may be said to have en no body of men in this country who held the rinciples of total abstinence and practised them. I ink I am correct in saying that the great representave of total abstinence, Mr. Joseph Livesey, of Preston, ay be called the father of the movement, the origiator of it; and he still lives amongst us. It is true at previous to Mr. Livesey's time there had been eat strivings after temperance in England, in Irend, and in America. So far back as two centuries o our divine Milton was using his noblest verse for mperance in a stanza I would like temperance rermers to teach everywhere:—

'If thou wilt observe
'The rule of not too much—by temperance taught—
'In what thou eat'st or drink'st, seeking from thence

'Due nourishment, not gluttoning delight,
'Till many years over thy head return:
'So may'st thou live till like ripe fruit thou drop
'Into thy mother's lap, or be with ease
'Gather'd, not harshly pluck'd, in death mature.'

Later than this sublime poet, other not less wise and sincere men, Armstrong, Tissot, Benjamin Franklin, Erasmus Darwin, Priestley, and many more, preached the same truths; while in the third decade of the present century men had begun to combine into societies for promoting temperance in the use of strong drinks. In Dublin, Dr. Cheyne had established a working society in or before 1828; and in America, in 1827, the 'Fall River Temperance Society' had got so near to total abstinence that one of its members, Mr. Kimball, had put forward in a very fine address a series of questions and answers to which I think there could only be one opinion now, and which remain in such force that they deserve to be repeated:—'Who are the manufacturers of distilled spirit?—The temperate. Who are the importers of distilled spirit?—The temperate. Who are the wholesale dealers in distilled spirit?—The temperate. From among whom do the intemperate arise?—The temperate. By whom are all the drunkards made?—The temperate.'

This was close argument for fifty years ago, but at that time it had led to little result. It was really not until Mr. Livesey's great effort that a race of true total abstainers sprang into existence.

You may ask fairly enough, What has this fact to do with the question of hereditary predisposition to drink? It has everything to do with it. At the present moment there is a race of total abstainers which may be numbered by the million. In Great Britain and America a population, equal probably to that of the metropolis of this country, lives to declare, by its life, the improvement of life that comes from total abstinence. From whence

were those millions derived? From ranks of total abstainers? No. From parents free of the much-suspected taint? No. The major part of them were born of parents who were not abstainers at all. A majority of them were born of parents who were not even temperate, if the word be fairly used. Numbers of them were born of parents who were intemperate. And wellnigh all of them had a taint, more or less decisive, descending from generations to generations.

These millions were tainted. Every one of them might possibly have made the excuse, so nearly were they all born in a period of universal taint, that they all had a natural proclivity to strong drink. The excuse would be valid; just as valid as the excuse of most of those who use it as the reason why they do not abstain. But the abstainers have shown the folly of the excuse by their lives. Tainted in proclivity, they have cast off the taint. Bondsmen born, they are free men as men. If, then, three or four millions can emancipate themselves in one or two generations, where need emancipation stop?

I have attended a man whose whole family, as far as he knew them,—father, mother, grandfather, uncle and cousin,—died of drink. Surely here was reason enough for proclivity. But this man, from recognition of the evil, has abstained from it through a long life, and has no disposition for it. If such a man can resist, who need despair?

Looked straight in the face, the hereditary difficulty is based on very small and poor evidence, yet it is a terrible obstacle. To me, as a physician, I know few more obstinate difficulties. In nine cases out of ten it is a mere difficulty of excuse. A self-inflicted difficulty. A sophistical plea for indulgence at all costs, and, alas! as I have seen sometimes, a fatal plea. Connected with it at the bottom, there is a remaining basis for it to rest on. There is a rare type, extreme as rare, in which it seems to assume a form of reality.

There are a few who, born of drunken parentage, are to a certain extent disposed to drink, and in some the disposition is from the first unconquerable after it is once felt. I have certainly seen instances in which, as far as I could discover, the habit of hard drinking was, as it seemed, instantly developed, and appeared to have a descent of a direct hereditary character. In these rare examples the taste for strong drink was not, however, developed in childhood. It certainly did not begin, in the most typical example, before the sixteenth year, and it is very hard to say when it would have commenced, or indeed whether it would have commenced at all, if the first taste of the dread evil had been withheld altogether. But the enemy, unfortunately, was at the door, and once consorted with was master of the position. The desire for drink became a rage, an insanity; a disease which nothing could explain except predisposition. It was suddenly developed when it was once started, and it was preceded by symptoms which indicated inborn aberration of mind. The mind from the first was unsteady, fretful, passionate, often very cruel, and always, in some particular, feeble.

The most striking illustration that is in my recollection at the present moment was in one whom I knew from his birth until he met his death by the most tragical of suicidal acts, and who was as peculiar in some respects before the fatal influence of drink had actually seized on him as afterwards. On his paternal side this boy directly inherited the alcoholic taint; on his mother's side indirectly. He was a boy not wanting in a certain ability, and not wanting in a certain beauty of build; but he had about him no determination of purpose. He was restless without object, capricious, and often melancholy. He was not intentionally cruel, but as if without knowing it he was suddenly and often desperately cruel with animals and playfellows alike. So he grew up,

not making much progress in anything, and caring less for play than a healthy boy should. At last, when he was under age, the taste for wine and almost instantly for stronger fluid of the spirit class was developed. Then, as it were, with a bound, he passed into dipsomania. There were no preliminary stages of gaiety or occasional intoxication, with periods of reformation, and relapses under anxiety and urgent temptation, but a complete transformation of the whole man,—or rather the whole youth,—into drink-madness. He did not, would not, could not reason on the matter. He was as conscious of the evil as was anyone who looked at him in his worst phases. He had no desire whatever to reform. It was his confession that he cared for life only in so far as it gave to him the opportunity to indulge in drink. Possessing no pity for himself, he possessed no pity for others, and, disregardful of his welfare, dragged all who approached him, as far as he could, into his own course; not, be it observed, from any desire to do them wrong, but from an actual indifference, or, it may be, ignorance of the relations between right and wrong. And so for some years his distorted way of life, accursed, as he himself said, and accursing, progressed; until in mere cruel freak, and practising, in the actual act of killing himself, an awful cruelty on others, he came to his untimely end.

I dare say there is not one person of mature years who cannot recall a somewhat similar instance derived from direct and personal experience. One instance is so like another, it is as if it were a photograph of fifty or any other number. To name the skeleton facts of such an example as I have given is sufficient to draw a recognisable picture even from my poor pencil. It is proof direct that the condition of true hereditary drink-insanity exists and yields a progeny distinct from the race of responsible beings which the Divine Author of races placed upon the earth to live by His ordinances.

It is not necessary for me to point out how g a difficulty these hereditary anomalies of human afford. To the outer circle of society, the circle l and powerful, that is enamoured of alcoholic drinks, declares those drinks to be necessary, and speaks o who differ from them with sorrow for our obstinac to that large and outer circle itself these typical li forms of alcoholic destruction are posers and hor Some confess as much. Others of this outer and w circle, equally shocked, suggest impossible scheme dealing with beings so distorted, strange, and unnat The asylum, it is said, is the only place for such bei Truly so! if there could be a limitation to their product But where are the asylums that will suffice to hold sanity that is bred without thought, or compunct or sorrow? The difficulty is not solved by repressin confining the products of an error while the cause is at large, but by suppressing the cause of the prod That cause left afloat to reproduce the evil with ph graphic perspicuity, what good is an asylum excep become a home for an unnecessary crime?

When will this English nation, so wise in n things, and in the main so honest as well as wise, l the simple philosophy of this question and the solu of the difficulty? In the very house where one of t hereditary dipsomaniacs is raving two young frie horrified at the sight, but anxious to render their sit up all night to keep a careful watch against further entrance of the cause of the madness of maddened soul. And in the watches of the night t faithful, faithless watchers kill the time by trea themselves to the inspiration of the insidious en whose entrance they stand to bar. This is a true pic Is it not within an ace of a picture of the insane lea the insane?

The hereditary difficulty, in what way sha be met?

There is but one way to meet it, and that is to persist heart and soul in advancing the principle of universal total abstinence. There is no other method. If there be, let some one else point it out. The asylum is confessedly not a cure. It is confessedly nothing more than a closet in which that which is objectionable is most safely concealed. Moderation is not a cure, for moderate indulgence itself is but another phase, a first stage, of the same disease. If the disease were one of theft, kleptomania instead of dipsomania, would he be doing right who taught the predisposed the first theft, were it no more than the stealing of a pin? Yet some one in these dipsomaniac cases teaches the predisposed to take the first glass. Moderation is not a cure, because moderate use originally feeds the desire, and from desire comes the disease; a disease of desire for that which produces the disease.

Total abstinence, on the other hand, is a preventive, and therefore is better than a cure. I fully believe that if, in the extreme case of which I have drawn a picture, the cause of the outbreak of the disease could have been kept from the sufferer, and if, under correct guidance, he could have been induced to abstain, he would have escaped the penalties he inflicted on many friends, and chiefest on himself.

I know that some will sigh as again they feel the truth of the difficulty that lies before them in convincing the world of the only remedy. At the same time there is no argument on the side of abstinence which is so powerful, and on the whole so effective, as the argument based on the existence of the class of disease which we are considering, and the mode in which it is engendered. The cases, put in their true light, are like so many pieces of experimental evidence brought together to bring conviction to the most reckless or obstinate mind. They are the most effective arguments against the senseless statement that alcohol is a food, and therefore a necessity. What other food, as a necessity, produces

hereditary madness? Suppose by accident some new substance found its way into food, and produced such effects, who would hesitate to expel it, even if it were proved to have certain qualities that were food-like? Ask the clergyman: Is that a food to be recognised which by its action on the body leads to the sin of suicide? Ask the physician: Is that a food to be recognised which leads to insanity? Ask the lawyer: Is that a food to be recognised which adds to the crime of every criminal, and makes communities of criminals who, but for it, might escape criminality? Ask any one: Is it a necessity to encourage the use of a thing which, 'like the insane root, takes the reason prisoner'? Ask any of the questions thus suggested, and you will find no argument with which the answerer, however self-complacent and self-possessed he may be, is in his own heart satisfied.

We may, therefore, make use of this hereditary difficulty as a powerful exposition and argument in favour of the cause of total abstinence. We need not in so doing exaggerate the difficulty, for one clear evidence of its reality carries all the demonstration we require to establish it. In itself it is sufficiently terrible as a fact to carry any amount of impression when it is correctly and judiciously stated.

There is an advantage, too, in knowing that the difficulty raised is so frequently overstated by those who pretend that they would really and truly abstain if the propensity ingrafted in them, as they say, were not in the way. If you can convince such persons that their feeling is mere weakness and dallying with wrong, and that, if it represented a prevailing and forcible natural truth, it had been impossible for one generation at all to escape from the faults of a previous generation, you gain ground. You may not convince on the spot, but you give food for reflective thought, and leave conviction to come at leisure. I have myself

found a calm statement of the facts, put somewhat in the manner I have detailed them above, a very useful mode of conveying conviction to doubting minds.

Lastly, as touching this question of heredity. It is encouraging to know that when the proclivity is really present it is controllable by abstinence, and that it is not a descent of evil through many generations. It is not, like that of cancer or consumption, a proclivity that may have descended from three or more generations back. It is, according to my experience, at most a tendency of one generation: two certainly is its utmost extension in direct line.

ACQUIRED DIFFICULTIES.

Next after the hereditary difficulty in the personal narrative stand what may be called the acquired difficulties, or difficulties which have to be overcome by persons who have adopted the habit of taking intoxicating drinks as ordinary daily beverages.

I fear that regular abstainers often err when speaking to those whom they would persuade into the paths of abstinence. Feeling for themselves how easy and natural a thing it is for life to be carried on without the aid of any stimulant, they are led to the conclusion that any man or woman may abstain as easily as they do. They are like good swimmers, who, being in the water and floating about as seals float, now on their side, now on their back, and in a moment under the water and deep down in it, call out, as they rise to the surface, and invite the shivering, nervous wretches on the bank who can't swim at all to come in and perform the same easy feats of skill.

It happens now and then that these classes of persuaders persuade with an effect which ends in a *fiasco*. The ignorant would-be swimmer leaps in as is desired, goes to the bottom after a struggle or two, gets out as

soon as he can, and declares he will never go in ag come what may. The ignorant would-be abstainer in for abstinence, expecting to find no difficulty a and little change; but he does find some difficulty a good deal of change, and being, as he feels, dece in what he is told, he comes suddenly to the conclu that however good total abstinence may be for s people, it is not good for him, and so he shall giv the trial.

You have all, I know, met with a fair round of e rience of this kind. The acquired taste for alcoh one of our grandest difficulties, is it not? It is a culty depending on many and varied causes, int analysis of which I shall have to enter, but I n it at first in this general way in order to correct error of action on the part of abstainers, which con in ignoring the art of learning to abstain as if it not needful, and as if abstaining imposed no pena on the learner.

I wish specially, emphatically, to insist that w ever the attempt is made to bring a person over the habit of taking stimulants to total abstinence, t should be no concealment of the fact that some diffic and peculiarity of life will be experienced. The e rience will be to some extent severe; it will not be over in the mere matter of a day or so, but may for some weeks; it will last, in fact, so long as final dose of alcohol taken remains in the system, so long as the symptoms produced by the alcohol felt by the person are held as impressions by the men And these facts should be fairly stated.

If you explain all these facts candidly to an ea man; if you tell him he will certainly for a time his accustomed stimulant, just as a man recovering lameness may miss his crutch or other artificial supp if you tell him that sometimes there will be a tem rary sense of lowness and depression such as a gla

stimulant would relieve; if you say that for several weeks these apparent feeblenesses will come and go, you will be telling the truth, and preparing the mind of your novitiate without subjecting him to the needless, and perhaps, real alarm of learning it for himself by himself as a result of his experience of your mode of life. Thus you will make him conscious of what he has to expect, and, ready for it; he will trust you for your foresight. If you tell him, further, as you can most truthfully, that in time all these troubles will go quite away, and that he will be purged from them all as certainly as he has felt them, if he will only persevere, you will find him more likely to persevere, and more likely to succeed.

Perhaps I am dwelling on this point too long, but I think I am not. I judge by my own experience. I am not afraid to admit that I found the first trial of total abstinence something of a trial. I felt reason more than once, though I am not of what is commonly called a nervous nature, to give up the trial when I was under undue pressure of responsibility. I felt reason more than once, when I was labouring under undue pressure of night and day work, to give up the trial, though I certainly am not a person who is wont to be cowed by strain of work, mental or bodily. But I was determined to hold on, and in time I had the reward of feeling every difficulty pass away,—ay, and more than that, every task come under obedience with far more ease, pleasure, and profit, than when formerly the glass of wine was called in to render its delusive and factitious aid.

I reason hereupon that if I, who by professional habit and necessity have learned some of that resolution, and calmness in emergency, and knowledge of human nature which so peculiarly belong to members of my profession,—if I, so circumstanced, felt a difficulty in making a radical change in my mode of life, it is fair

for me to expect that other persons less fitted for the same change, less resolute, more nervous, and more susceptible, will feel the same difficulty. Again, I know by the experience that comes to me from others that they do feel the same, and that it is a cause of extreme perplexity to them how to bear up, as they express it, and to resist, at the same time, the insinuations, the jeers, the advices, and it may be insistances, which others, who indulge in the use of stimulants, are always ready to put forward.

It is important to spend a little time in this part of my address to explain the very bad effect of repeated trials and repeated failures in the art of learning to abstain. We are all such creatures of habit; we are all so given to repeat ourselves; we are all so ready to say, when an obstacle lies in our way, 'Oh, never mind this time trying to get over it, since at some more convenient season we can renew the attempt;' we are all of us so given to these self-pleasant and easy-going forms of repetition, that the danger of failure on one occasion is the most serious forerunner of recurring and still recurring failure. I have known those who have tried total abstinence twice, and have succeeded on the second attempt; but I have never yet known of anyone who, having failed two or three times, has succeeded equally well as with him who succeeded out and out at first. Hence the immense importance of a sound and decisive and well-confirmed commencement in the practice of abstinence. Hence the care that is necessary on the part of the teacher to be above all things candid and precise in counsel, forecast, direction, and encouragement. Hence the necessity on the part of the new abstainer to determine to hold on, feeling assured that holding on is the certain way to cast off all his burden and to stand at last free of the ill-timed necessity that has held such supreme dominion over his physical and mental nature.

I have said that a period of several days must lapse before the loss of the stimulant is felt by those who are habituated to the use of alcoholic drinks. In that statement is included the minimum of time of probation. There are a few who, being at the moment when they become abstainers extremely moderate drinkers, feel scarcely any sense of deprivation, but the majority feel the deprivation even for months, though in a diminishing degree.

I have a word to add before I go further to some,—and they are rather a numerous class,—who are what are denominated practical abstainers, who take so little alcohol that to them total abstinence would be no trouble at all, but who will not abstain altogether. It looks at first sight that these people would be the nearest allies and friends of abstinence that abstinence could have, short of its confirmed disciples. It is the fact, however, that, although these virtual abstainers are allies, they are not, by necessity, friends to the cause of temperance.

Their argument is that, under the abstinence they practise, they secure all the advantages of the total abstainer, while they are free to do as they like on occasion. They are really abstainers; but they take a glass or two on recreative occasions, and hold themselves as free to drink a draught of champagne as of sodawater, lemonade, or other nice drink. They never do more, and they are no more harmed physically by what they drink than they would be by an occasional spoonful of tipsy-cake or a mince pie. These are abstainers *de facto*, disguising under this merry coat of many colours their abstinence, reaping the vital advantages of abstinence, and not discovering the sad injury they are doing to the many who see in their example the ready excuse to continue in danger.

These men are not fully aware of their own special good fortune, which by natural gift or taste saves them from perdition. They little conceive that what is so

easy to them is so hard to the majority, and that by the very boast they make of the easiness of their self-control they are tempting others, less happy, to try their method, as if all men were equally proof against temptation.

To my mind, this is a most unjust and cowardly mode of using virtue. It is using virtue against herself. It is acting as if men were ignorant of, or knowingly opposed to, the fact, that in the larger number of persons alcohol creates an appetite for itself, which must ever be watched with increasing care, and which it belongs to few to be proof against, under any vigilance and resolution short of total exemption from danger.

Sometimes, indeed, the favoured ones themselves are caught napping, and, under the idea that they can always keep an eye on themselves, are bound by the arch-enemy before they are aware, and are sold for bondsmen and bondswomen, when, as they thought, there was no one to buy them.

These considerations lead directly up to another question of first moment, namely:—How ought abstaining to be commenced? Ought the would-be abstainer to leave off the habit of taking the stimulant suddenly, or ought he to do it gradually—*guttatim*, drop by drop, as the pharmacists have it? I recal that in one of the first addresses I ever heard on the alcohol question,—it must be quite forty years ago,—the eloquent advocate of temperance, whose name I have entirely forgotten, told an anecdote, which I doubt not has been told over and over again, of a man who learned to abstain by dropping one drop of molten sealing-wax every day into the glass in which he was accustomed to measure his ration of spirit. By the time the measure was filled up with hard wax this persevering novitiate had learned to abstain. The anecdote is good to tell, but I am afraid the practice it inculcates, if it were generally adopted,

ould not add, in a very lively way, to the triumph of ›tal abstinence. Indeed, I think it would rather tend › sustain the triumph of Bacchus. Long-continued abits are not to be surrendered, in that luxurious vay. To acquire a habit it must be slowly built up; ›o get rid of a habit it must be blown up.

In respect to the giving up of alcohol, it seems to me to be particularly required that the abstinence should be, as we may say, on the nail, a practice adopted at once and for good. As a matter of experience, I have never seen a very successful result from the dallying process. It is, I repeat, one of the singular physiological actions of alcohol that its very presence in the human body maintains the desire for it, and overrides the will. In this manner is instilled the desire to take more of it in those who take a little, and in this manner drunkards are produced out of moderate drinkers. In these respects alcohol differs in action from all natural foods, for they cloy if they are persisted in too long. A man may like pork chops, or beefsteaks, or oysters, or more delicate foods very much; but let him have them for too long a season, and he becomes wearied of them, and at last sickened. Bread to a person who only partook of it now and then would be a luxury, but though it is the staff of life, and though a man could live upon good bread as well as he could upon the choicest food, he would consider himself put on prison fare, and would look on himself as a martyr if he were kept exclusively on that veritable staff of life. Neither the fault, however, nor the objection would tell against the sustaining value, but only against the frequent repetition of the food. In regard to alcohol the very reverse obtains. The repetition calls for the repetition, so that in many cases there is no end to the desire for repetition.

A similar relationship is held in respect to quantity as well as quality of food and of alcohol. The most

determined glutton is obliged to limit his amount
food. Before the exportation of convicts to the A
tralian colonies was stopped, a very singular exp
ment in the way of discipline was tried at the con
establishment of Fremantle, in Western Australia.
authorities in that establishment made the singular
covery that a convict colony was more easily mana
when the convicts were well lodged, well clothed,
supplied with more food than they could possibly di
and utilise, because they, the convicts, could, under t
system, be more readily punished by the withdrawal
their luxuries. 'Whether it is a justifiable mode,' wr
Governor Kennedy in the Blue-book on 'Convict Di
pline and Transportation,' 1854, 'of obtaining the obj
in view, opens a most serious question.' It did ind
open, not only a most serious, but a most novel questi
which, however, was not without its lessons. Dr. Ren
the surgeon to the establishment, had to inquire into
system, and he found that there was a limit to hun
endurance in over-eating, even amongst gluttons.
gives a truly touching narrative of one of the convi
No. 3,035, whom he found ensconced behind a m
of nine ounces of solid meat, eight ounces of bre
twenty-one ounces of potatoes and cabbage, and twe
ounces of soup, thickened with oatmeal. Fifty-ei
ounces in all. No. 3,035's powers of eating were
seems, capacious enough, but he was only human
regard to capacity for food, and the doctor had to
lieve him of the imposition, owing to the fact that
had arrived at a point of difficulty in swallowing it,
was, in fact, surcharged altogether.

This official record tells us further, that in the w
cases there was very soon a limitation to the recept
of food by the body; but, unhappily, there is no rec
which tells us of a similar limitation of reception
alcoholic drink. There is no such symptom as be
cloyed by alcohol. On the contrary, the more o

that is taken, the more of it is called for, until nothing but sheer insensibility to all wants, and all desires, and all knowledge shuts off the further demand.

It might well be presumed, then, *à priori*, that while there is any alcohol present in the body there is the probable danger that the desire for it will remain, and this is the practical, not less than the anticipated result.

I have watched the effect of the attempts to abstain by easy steps until I have been obliged to give up all confidence in that process. A man begins to get on a little way, and would continue if all were smooth in his course. But there comes an interruption. He is a little below par,—that is what he says, often without caring what that means; or he is seeing a friend who laughs him out of the farce of taking so many drops less, and into the farce of taking what he feels good for him; or he entertains a friend who enjoys a glass, and he could not in common courtesy take practically nothing in his friend's presence. So by one or other of these temptations the rule is broken. The shifting sand moves on, and carries him with it, who trusts to it, farther from the dry land into the treacherous sea.

The advice I invariably give now to all would-be abstainers—and it is advice it befalls me to give every day of my life,—is, *give up from to-day*. In determining on abstinence, indeed, the watchword of the poet was never more truthful:—

> 'Be wise to-day, 'tis madness to defer;
> 'Next day the fatal precedent will plead;
> 'Thus on till wisdom is push'd out of life,
> 'Procrastination is the thief of time.'

This advice is clear enough and straightforward enough. Yet out of it springs a new difficulty. The timorous ask, the unwilling converts ask, and the nervous of all kinds ask:—'Is there not some great danger in suddenly taking from the body that which it hath so

long been accustomed to? Is it safe suddenly to al stain?' There are thousands of persons who are ke from abstinence by the fear or doubt, or, I had almo said, in respect to some, the hope that is involved i this question. Moreover, opinions on the question hav but recently been heard in the negative. Hitherto i has been the all but universal belief, though without an definition of its nature or mode of demonstration, tha there is not merely danger in sudden abstinence, bu that there is great and imminent danger in it. On might imagine from the stress laid on this danger tha some persons went insane from suddenly giving up alcohol, or committed suicide, or fell down insensible, or became paralysed, or dropped into fever, or passed into consumption, or in some way or other were afflicted by a fatal malady, as so many are afflicted with all the maladies I have named, and many more, by putting off total abstinence, and holding on, through evil report and good report, to alcohol.

It is fortunate for those who are in favour of abstaining at once from alcohol that every portion of reliable evidence is on their side, and that every portion of unreliable evidence lies the other way. I must devote a little time to the elucidation of this part of my subject.

We physicians divide our evidences bearing on living human phenomena into two sections, the subjective and the objective By the subjective we understand those phenomena or symptoms which the person who is under observation describes as felt by himself in reference to himself. By the objective we understand those phenomena or symptoms which we ourselves see in the person under observation, and to which we can assign names, if we cannot assign a correct reason for their presence.

Sometimes it happens that the subjective symptoms present to us no objective phenomena at all: as when

man tell us he feels hungry, or thirsty, or faint, or red, but does not show any outward or visible sign of ch suffering which we could distinguish, if we had ɔt his assurance of the fact.

Sometimes the objective phenomena stand out very ɛfinitely, while the subjective are altogether absent,) that, if we had not the direct evidence through our own ɛnses, we could not, from anything the person himself ıid, know that any symptoms were present: as, for xample, when we hear a morbid sound in the heart of he person, about which he is utterly unconscious on ıis own unaided part.

Sometimes the subjective and the objective symp- oms run together, as when a person says he is blind, ınd we, looking into his eyes, observe that he is suffer- ng from cataract.

As a rule, observation is most conclusive in instances vhere the subjective and objective signs are both mani- ested. It is next most conclusive in instances where he objective signs are clear, the subjective obscure. It s least clear in instances where the objective signs are vanting and the subjective alone are proclaimed.

It is very easy to see why the last-named examples ıre most difficult to define. In them the will of the ubject and all his other mental powers have their full ɔlay without check or correction. The observer has to ıccept everything on the word of the person affected, vhich, of course, is in most cases true and sufficient, ɔut which is also at times, if true from his belief, in- ufficient to be reliable as ground for an independent ɛlief by another person. Hence the most careful ɔbservers put objective evidence first, even when it omes into collision with subjective evidence.

In relation to this subject of sudden abstinence rom alcohol and the effects produced we have much ollision between the two forms of evidence, subjective nd objective, that are put before us for observation.

A great number of persons who have tried to give up alcohol, as they depose, declare that the sudden deprivation of the agent subjected them to such symptoms that if they had persisted certain consequences of the most serious character would, they believe, have followed. They therefore did not persist, and so escaped the consequences.

You will see at once the fallacy of this subjective argument. It is an argument on the danger of consequences which never occurred, and which as far as we know never would have occurred. One of my friends told me quite recently that if he had persisted in abstaining he should have become paralysed. His doctor had bid him abstain because of some want of correct muscular action which was possibly induced by alcohol; but if he,—the patient,—had gone on with the treatment he should 'have dropped into palsy.' 'But did you drop into palsy?' I inquired. 'No! He stopped short of that by going back to alcohol.'

This is a perfect specimen of the subjective logic, in which every passing symptom is magnified into a belief of some coming terrible danger, which does not come, because it is put off by giving up the practice; and which, as it never comes to those who have the courage to hold on to the practice, cannot be accepted as a danger at all.

To get at the full truth, therefore, we require to have objective evidence, distinct from subjective altogether. We want a grand experiment in and by which it shall be determined whether any diseases recognisable by objective signs, which all can see and understand, do occur from the sudden deprivation of alcohol. The experiment would be formularised in this manner:—Take a sufficient number of persons, say a thousand or more, who are drinkers of alcohol. Without any preliminary preparation cut off alcohol from them absolutely. Never mind what they say they feel; never mind what they say

they fear; never mind what they declare must happen if they are not supplied with this great and urgent necessity. For once be cruel to be kind with a vengeance. Then observe carefully; and if, in the course of observation, it be found that any number of these deprived beings really suffer from the deprivation, or if any number of them fall into paralysis, consumption, insanity, or other of the dreaded and fatal diseases, as a clear result of the enforced abstinence, the evidence will be against abstinence so far. It will prove that alcohol, which produces so many diseases, cannot be left off suddenly without some risk to health and life.

I suspect that a man who had proposed fifty years ago such an experiment as is here set forth would have been tabooed in society as a monster of experimental iniquity. I do not know whether it could have been proposed now, as an experiment, without entailing similar consequences if it had been done for the mere purpose of arriving at the truth. The best of the matter, however, is that the experiment has been done, and is being done, on a much larger scale than any suggested above, and with results that are definite. The objective evidence, separated from subjective meanderings, is complete.

The gaols of this country, which have been the schools of so rich a store of sanitary knowledge, have been also the experimental grounds of the experiment which we wanted to institute, for the fact we were fain to know. Into those gaols are carried men and women in all degrees of alcoholic existence. Within the walls of these institutions alcohol finds no place. Once there, whole populations of drunkards and moderate drinkers are deprived of strong drink without hesitation, without mercy, yes! without mercy. Do they who are thus treated fall, as a result of the enforced abstinence, into the diseases so dreadful and so dreaded? They are not allowed very sturdy food of other kinds to replace

alcohol in their great emergency. Do they collapse? Do they fall into consumption, or insanity, or palsy? If they did, there would soon be a ferment in the country that would level the gaols, and put a brandy-flask to the mouth of every sufferer, prisoner though he were. I, for one, would join the helpers heartily, with brandy-flask in hand.

But the solemn fact is that these enforced abstainers become, under abstinence as a leading cause of the fact, the healthiest of the community; while no one has been able to spot a single definable serious disease as due to the deprivation of alcohol.

It were vain for me to seek for a better solution of the difficulties that are made to surround the first attempts at total abstinence. It were unnecssary to point the moral of the history I have told. This time the moral comes into the world ready pointed, as the sceptics will find who like to put their fingers upon it to test its efficiency.

ADDRESS IV.

PHYSICAL DIFFICULTIES IN THE WAY OF TOTAL ABSTINENCE.

my last address I dwelt on three subjects: The reditary difficulty of abstaining from the use of alcolic drinks. The mode of leaving off the use of those inks. The little practical risk of leaving off by that st of all methods of procedure, instant abstinence.

I must for a moment recur to one other point lating to the question of heredity and alcohol. It s part of my object in the last address to indicate the cts that the hereditary difficulty is often raised when does not, in reality, exist, and that when it actually ists it does not go very deeply into generations so as create a long-abiding proclivity. These admissions, ich I think I proved fairly, and on evidence which nnot well be disputed, has led, I find, to a certain isapprehension on a subject I did not at the moment e the necessity even of naming,—I mean the heredity tendency of those diseases of the body which are luced by alcohol, but which are, by common acceptaon, separated from the agent, and put down as diseases stinct in themselves.

The inference, as I find from my correspondence, s been drawn that because the proclivity to drink limited, the proclivity or constitutional tendency to e diseases induced by alcohol is therefore limited, that all the evils committed by alcohol on man are nfined to one, or at most two generations.

I wish at once to make this matter perfectly clear. The facts stand as follow :—

In addition to the direct evils induced by alcohol on the individual who becomes a slave to it, in addition to that craving for it which it excites and that drunken frenzy and palsy which it brings men to, it causes diseases to which distinctive names have been given, which names, in some cases, were given while yet the producing agency was altogether unsuspected. These diseases are centred in different organs of the body. Most frequently, perhaps, the liver is the seat of disease, and the person suffering is said to have cirrhosis, or some other disease of the liver, which in the end causes death from the destruction of function of that great vital organ. More than fifteen years ago I pointed out that the lung might suffer from the action of alcohol, and I defined a form of consumption of the lung, to which I gave the name of alcoholic phthisis, or the consumption of drunkards. Others have traced many affections of the brain and nervous system to the action of alcohol on the nervous structures or on the membranes enveloping them; and so we have paralysis, epilepsy, diabetes, and insanity arising from alcohol.

It is clearly defined that the kidney undergoes structural changes under alcohol, and that certain of the forms of kidney-affection, now too generally put under the head of Bright's disease, are derived from this source of injury. Lastly, it is well recognised that the heart and the blood-vessels are liable to structural changes from the effects of alcoholic indulgence. These facts stated, there follows the question whether the diseases induced by alcohol are as certainly hereditary as when they have some other origin, *i.e.* an origin from any other cause.

The answer to this question is simple, and direct; it clears up the difficulty that may at first sight be connected with the effects of alcohol on the body, and the hereditary character of those effects.

It is not proved that every disease is hereditary or has an hereditary basis, although it is probable that the hereditariness of disease is much more extensive than has been hitherto assumed, and I have ventured further than anyone, who has preceded me, in suggesting this idea. But I do not want to press my own ideas on the present occasion. I am quite content to fall back on what is admitted from fact apart from theory, and to say it is not proved that all diseases are of hereditary descent. Further, I would say it is not proved that all the diseases I have named above descend in the hereditary line, whether they have been induced by alcohol or by any other agency. It is not proved, for instance, that the disease of liver called cirrhosis descends in line, or the structural kidney diseases, or the structural diseases of the heart and blood-vessels. These diseases may so descend; the evidence is not sufficient to prove that they do.

Some diseases, however,—the consumption of the lungs, the paralysis, the epilepsy, the insanity,—unquestionably descend. They descend, whether they be derived from alcohol or from any other cause, but to how many generations those which spring originally from alcohol pass down it is not as yet possible to state, because a sufficient time has not elapsed since the discovery of their mode of origin from alcohol was correctly defined.

Here the matter for the present must rest. It would be bad for science to venture on any speculation; it is sufficient to state what is known.

Connected with the hereditary transmission of diseases having alcohol as their primary cause, we have, finally, to take into consideration the fact that many of the unfortunates who are of alcoholic parentage are not only conceived and born in alcoholic taint, but are from their birth subjected to the poison in combination with their mother's milk, and with all their after food. They

are from their earliest life involuntary alcoholics. They are bred as well as born upon alcohol. We have, therefore, constantly to take their bringings-up into account, as well as their heredity, and to separate one factor from the other in considering the true effect of heredity.

FEEBLENESS OF THE CIRCULATION.

I pass now to consider some of the other physical and personal difficulties which lie in the way of learning to abstain. I have shown that the hereditary difficulty is, in the main, an excuse without a reason, and I have shown that when it exists there is no remedy for it except total abstinence. I have shown that the excuse of a possible danger from commencing to abstain is without defence at all in fact.

These are two grand difficulties of a personal kind; and if we could convince the world alcoholic as to their true nature, the cause of abstinence would advance with rapid strides. Let me, at the same time, not despise some other assigned difficulties, and even when they seem ever so childish, let me not pass them over with a thought of ridicule. A number of minor obstacles may be so laid out as to cause more embarrassment than one huge obstacle which might, by a possibility, be destroyed *en masse*, and leave an open way in which even a fool could not err therein.

There is a physical difficulty of the purest kind affecting those who, having been trained, from early into mature life, in the use of alcohol, are artificially constructed to feel its influence. I refer to a sense of feebleness of the circulation whenever the attempt to abstain is made.

The simple physiological action of alcohol is to reduce the tension of the vascular system of the body. Under the action of alcohol the resistance to the current of blood through its vessels is diminished. This

indicated in the flush of countenance that is caused temporarily by wine in those who are unaccustomed to its use. This is indicated in the flush which is permanently seated on the faces of so many who indulge in something more than a moderate use. This is indicated in the purple uniform of complexion which is worn by so many of what are called the hard-drinkers of society. We see in all these the external sign of that diminished resistance to the entrance of blood which alcohol induces in different degrees.

It has been one of the reproaches thrown out by ordinary society against the total abstainers from alcohol that they, the abstainers, are pale and white-faced; that they are deficient in colour, and therefore, so runs the argument, deficient in blood or deficient in some quality of blood. I gave a lecture not long since to an audience of total abstainers from alcohol. I lectured in a large hall, in which a multitude of the worshippers of Bacchus had the night before held high festival. I cannot quite report that 'the funeral baked meats did coldly furnish forth the marriage tables,' but I can report that an hour or so before my lecture the odour of the feast was clearly perceptible in the still laden atmosphere of wine; and I can also report that one of my auditors, who was present at the wine-feast of the previous day, was full of description of the difference of complexion of the two meetings in regard to the visages of the two companies. He compared the Bacchanalians to the rosy morning, and the abstainers to the pale evening. But he admitted that in matter of strength and, as he called it, healthful solidity, the abstainers were by far the most promising specimens of humanity. It is true that many abstainers are pale when compared with alcoholic drinkers; and it is observable that at a common table, where some who take wine mix with some who do not take wine, the difference of the two classes may be very easily detected.

Those who laugh at the abstemious for being pale

would be warranted in laughing if it were the fact that the red face, they so much admire, was indicative of health and the pale face was indicative of disease. Unfortunately for their side of the case, that suffused face, that jolly red face, that dark red face is the face of disease, while the pale face is as Nature meant it to be. Unfortunate, also, for the laughers, is the fact that the red and suffused and dark facedness of the alcoholic is not simply skin-deep and confined to the face. The same redness extends to more vital surfaces. The surfaces of the brain and of other vital organs are congested in like manner, according to the degree of injury that has been inflicted on the blood-vessels by the paralysing drink that is accredited with so much usefulness.

There is an alcoholic population, of the order I have described; an immense population living from day to day in the semi-paralysed condition of circulation. The members of it, in the midst of their laughter at the abstainers, are half-wrecked. They are like the Red Indians, who look with contempt on the pale faces, while unconscious that their own power is as rapidly fading as the power of those they contemn is being preserved. They are easily overbalanced by slight causes. In the course of their lives their hearts, constructed, naturally, to make a certain number of beats, have been doing from ten to twenty thousand or more extra beats a day, thereby shortening, in proportion, the number of days in which the ordained amount of work has to be performed. So their hearts are in a few years disabled,—dilated in the cavities and distended in the valvular machinery. The larger vessels leading from the heart are dilated and less elastic than is natural; and the small vessels, as we are aware, are dilated, feeble, and liable to give way under slight undue pressure.

It may seem a strange thing to say, and yet it is perfectly correct to say, that in these persons the very feebleness of the heart, under the condition named, is a

certain cause of safety to them from immediate danger. If in them the heart retained its full and natural power it would by its action force the blood too strongly through the weakened minute blood-vessels and would kill directly. As it is, getting easily wearied, it works in diseased unison with the other diseased parts, and so life is maintained longer than it would be if the structural damage were less than it really is.

In course of time the members of this alcoholised population almost inevitably fall into death prematurely, if they continue in their course. Sometimes they fall from failure of the heart. Sometimes under a little extra excitement a vessel gives way in the brain, and they become partially paralysed, if they do not succumb immediately. Sometimes they get organic kidney or liver disease, or that consumption of the lung which I have already brought under notice.

Physically, the condition of the whole of the members of this great population is very bad. They are the last that should make sport of the pale faces. The physician, who, at the examining board of the life insurance company, has learned the necessity of casting up the value of life as he would a column of figures in simple addition, knows them all very well. He ticks off so many years from their lives, according to the stage of alcoholic disease at which they have arrived, with as much precision as an engineer driving a steam-engine reduces the pressure of his steam from the reading of the pressure-gauge. The physician may not himself be a total abstainer. He may dine in the evening with the man whose life he has ticked off in the afternoon, and over the wine he may laugh with his friend at us pale-faced wretches, who declare that every round of that deadly working decanter is another addition to the ticking off. But he knows as well as I do why he had to reduce the value of the life before him; and if he would reflect he would feel as I do, that the passing of

the decanter was the blind factor in his painful but necessary professional calculation.

Physically, the great alcoholic population is in a bad state, and I am going now to admit that it is a most difficult population with which to deal. It is such a jolly population! It is so hospitable! Its heart is so determinately and unmistakably in the right place! It is such a common-sense population! It takes the world as it finds it, and though it dies from what it finds, dies in company with the rest of itself, and maintains the correct fashion, even to the mode in which its death shall be catalogued in the Registrar-General's returns of mortality. Without this population, where would be the gibes, the gambols, the songs, the flashes of merriment that are wont to set the table in a roar?

It is a wonderful population! It is the population which, first of all for its own sake, next for its children's sake, and lastly for the world's sake, requires to be converted to abstinence. It is worse than a dipsomaniac population, for the dipsomaniacs carry their indiscretion on their sleeve, and excite nobody's admiration. It is worse than that population which, actually smitten into helpless disease by alcohol, is out of sight. It is a population living as an example of men and women injured by alcohol, often fatally injured, and still rejoicing in the cause of their fatal injury.

The difficulty in teaching abstinence to this multitude lies in the fact that its masses are, as it were, for a season, constructed on alcohol. In the early stages of their course, while yet there is a slight disturbed balance of pressure between their hearts and the minute controlling blood-vessels, the heart gets so wearied from the extra labour and excessive waste to which it has been subjected that it cannot regain its power in time to serve their body with blood after the vessels have recovered some tone and some natural resistance. They feel a sinking at the heart, a sense as if it were impossible to live if

hey had not at command a certain means for restora-ion. The means is the stimulant that has let them lown. They take a new dose, which causes once more enfeeblement of the vessels; the heart responds to the reduced pressure, and they say they 'are men again.'

In addition to the weariness of heart produced by the stimulus a man of this class may be subjected to weariness of heart from some other cause acting through his physical or mental organisms.

> In trouble to be troubled
> Is to have the trouble doubled,

says the Spanish proverb. What shall he do now? He has the remedy at hand: he takes his glass of stimulant, and 'he is a man again.'

In one of his shrewdest works the author of 'Tancred,' our present Prime Minister, teaches that 'next to the corroding cares of Europeans, principally occasioned by their love of accumulating money which they never enjoy, the principal cause of the modern disorder of dyspepsia prevalent among them is the irrational habit of interfering with the process of digestion by torturing attempts at repartee, and racking their brain, at a moment when it should be calm, to remind themselves of some anecdote so appropriate that they have forgotten it.' What, in a crisis of this nature, shall a man do who would fain give forth one of his flashes of merriment? The means is at hand. He will take a glass of the stimulant. He is going to speak at a banquet, and all is expectation. He is going to sing, and everybody is listening. He hesitates at the words, and he must take the means that is at hand. It is a ticklish experiment, for if he shall take a little too much, though the words may come, the muscles may give them forth rather more thickly than is desirable. But what else is to be done? The risk is accepted, and the stimulant is the friend once again courted.

In all these emergencies and in many more: in days or nights of jollity: in days or nights of sorrow: in periods of danger: in periods of repose and most perfect freedom from all apparent danger: in times when passions are well-nigh extinguished, as well as when the passions, like a heaving sea, are overwhelming:—in all these states, so contrary and so wearying, the remedy is the same. It is the agent that will bring up the heart to its work by bringing down the body to the impaired necessities of the heart.

To lead a man so dependent on alcohol to try abstinence is too often like talking to thunder and storm. Thousands upon thousands are not even conscious of the entirely unnatural state in which they stand. If by any accident, such as the refusal of an insurance office to accept their lives, they are made conscious of their condition, they experience a shock they can hardly describe it is so strange. The shock goes to the heart itself, and must be immediately relieved. The means is at hand. They will take a stimulant, and 'they are men again.'

There are some of this population who are conscious that what they are doing is opposed to their benefit. They are not so ignorant but that they can feel or detect something wrong within. That constant sinking when, for a short time, the stimulus is withdrawn, that knowledge that each withdrawal is attended with more earnest desire for rapid renewal; that sense of failure, at times, in the remedy itself; one or other of these senses leads to the recognition of the truth of something being wrong. But then comes the difficulty. What is to be done? The craving for the supposed and long-trusted means of relief is so overpowering that, come what will, there is no help for it,—it must be tried again. The alcoholic constitution prevails, and its fatal end is determined.

There are some who, conscious of the danger in which they stand, are prevented saving themselves from it

e timorousness of nature. They would willingly
alcohol if they dared. But how shall they begin?
they leave off at once, or drop by drop? They
ıe first plan. They abstain a day or two; and then,
g a little oppressed and faint, they can bear no
They will take a glass of wine once in a way,
ecover, and try abstinence again. The failure is
ted and repeated until they get back to their old
es. Others try the gradual method, but under some
pressure find they must call a little back; then
ıey may as well be hanged for a sheep as a lamb,'
:ake a little more. They take it perhaps to oblige
nd. They never learn by this mode to abstain.
here is another class of the great alcoholic popu-
ı which, anxious to abstain, and knowing itself to
some measure disabled by alcohol, continues to
to it by virtue of some clever conceit which it
s it has converted into a commanding rule of con-
or of some natural discovery which it believes it
ıade. It were amusing, if it were not so serious,
ten to this representation of argument. One man
he knows he would be better if he left off stimu-
His heart tells him so; his restless sleep tells
o; his frequent giddiness tells him so; his craving
him so; his conviction that he is getting too de-
ent on the enemy tells him so; his persistent dys-
a tells him so; while his experience of the effects
:ohol on other individuals assure him how correct it
be to abandon its use. Moreover, his fervent desire
t a good example prompts him to abstain. But
is he to do? Alcohol is absolutely necessary to
to keep his bowels open, or to give him a fillip
ıt some particular time, or to pick him up when
as been out late at night or overworked. I have
l a physiological friend say that alcohol was essen-
:o him in order to reduce the tone of his blood-
ls. His heart was either too weak to meet the

resistance of his blood-vessels, or his blood-vessels were extra resistant. He therefore required to be relieved of the unfair balance of power, and for such relief there was no remedy except alcohol. Alcohol relieved his oppressed heart like resting in a recumbent position. Again, I have been told that without alcohol sleep was impossible, and I think there are more people who believe this than who believe the contrary. On the other hand, I have listened to those who have declared that they could not keep awake during the day unless they took a certain measure of some alcoholic drink.

DEBILITY.

There are many in the great alcoholic population who are fain to use alcohol in order to relieve debility arising from some drain or loss from the system. Mothers who are nursing their children are typical examples of this kind. When such mothers are improperly fed, when they are underfed, when they are overfed, or when they are fed on sufficient quantity but indifferent quality of food, they are given frequently to feel low, as they urgently express it; to feel as if life would be intolerable and impossible unless it were relieved. In this emergency they fly to the ever-tempting, ever-ready alcoholic potion. The rich woman has at hand the luscious madeira, or the misnamed 'generous port,' or the full-bodied sherry, or the sparkling champagne. The poor woman has the 'nourishing stout,' or rich brown ale, or the vilest of products, the nip of gin, rum, whisky or brandy. To these, one or other of them, the sinking woman flies, and in a few minutes the dulness, the heaviness, the faintness has passed away. She is as a drowning person who has come up to the surface, has caught a floating bundle, and, holding by it, breathes again. Alas! in a brief time the support begins to give way, and the victim

with it. She falls once more into the hopeless state from which she started; she resorts once more to the promised relief; she loses power, and resorts again to the treacherous aid. In due course of time, and, indeed, I may say in course of nature, she becomes a new organisation altogether; an organisation living on a different plan from that on which she was originally projected; coming under a new series of laws of life; passing through a new series of organic changes; and dying at a period different from that which was positively designed for her course. Thousands of women annually fall into premature death from this mode of living under emergency. and there is no cause for wonder at the fact. That fluid on which they relied had in it nothing at all on which their structural life could be sustained, excepting a little sugar in some of the drinks and the water which formed the main body of the fluid. The action of the alcohol throughout was but an agent that relaxed the vessels, taking off friction for a brief period; that set the feeble heart for a short time free; that seemed, by the flash of life that appeared on the surface, to communicate life; but that really wore out every organ it influenced, and chiefly the heart, without supplying a figment of strength, health, or vitality.

I dare say some of you have seen, in watching the course of that dread disease consumption, the delusive flush to which we physicians give the name of hectic, or hectic fever. There is no word on the lips of the learned physician so ominous respecting this disease; no sign he is so anxious not to see. In nineteen cases out of twenty it is the sign of doom, written in vivid crimson lines that cannot be mistaken by those who know it. At the same time it is a sign of the most delusive form to those who do not know it, and to none more delusive than to the sufferer himself. From the depths of exhaustion and death-like depression the sick man lights up into life. His pulse becomes quick, his cool skin

warm or glowing, his pale cheek bright, his features animated, and his mind re-established and hopeful, nay, it may be, brilliant and light. It is all a dream. That very exaltation, that very fever, that very brilliancy, like the sudden glare of an expiring wick, is but the hastening flash of the final catastrophe that is at hand.

There is no more faithful similitude to the flush of alcohol than this hectic flush. Hectic is a presentation, measured in days, of facts and phenomena which under the influence of alcohol are extended over months. The alcoholic flush of the exhausted man or woman, raised up, as it seems, by the alcoholic draught, is the hectic of alcohol—a prolonged hectic, but as sure a presage of what is to come as the hectic of consumption.

The hectic of alcohol! Let it be remembered as attacking the weary of life. Too often, alas! it attacks the strong also. Too often it fetches down, not the poor enfeebled mother, giving up her life-blood to her young, but the man in his prime, who with no such excuse for seeking its false aid, seeks it really to undermine the very strength on which he should depend, and on which he should march to usefulness, reputation, virtue, and honour. Him the poet Armstrong forcibly describes in truthful verse:—

> Struck by the powerful charm, the gloom dissolves
> In empty air; Elysium opens round,
> A pleasing frenzy buoys the lightened soul,
> And sanguine hopes dispel your fleeting care;
> And what was difficult and what was dire
> Yields to your prowess and superior stars.
> The happiest you of all that e'er were mad,
> Or are, or shall be, could this folly last.
> But soon your heaven is gone: a heavier gloom
> Shuts o'er your head; and as the thundering stream,
> Swol'n o'er its banks with sudden mountain rain,
> Sinks from its tumult to a silent brook,
> So when the frantic raptures in your breast
> Subside, you languish into mortal man;
> You sleep, and waking find yourself undone.

DIGESTIVE WEAKNESS.

In the great alcoholic population there is another ass which finds a difficulty in approaching abstinence, ecause of the digestive weakness to which its members e subject. Animals inferior to man digest food readily ough without the assistance rendered by alcohol. hildren and young people digest food readily enough ithout the aid of alcohol. Many thousands of adult otal abstainers digest food readily enough without the id of alcohol. If you take a fair number of confirmed otal abstainers and compare them with the same number f confirmed moderate alcoholic drinkers, you will find he best evidences of good digestion in the abstainers, nd the best evidences of impaired digestion amongst he alcoholics. You will find the tongue of the abtainer clean, his breath free of odour, his stomach unppressed by gaseous products, his appetite natural and ood, his sleep undisturbed by uneasiness of stomach, he temperature of his body steady, and his secretions egular. You will find the tongue of the alcoholic unluly red and dry and often thickly loaded or furred; is breath peculiar and frequently offensive. You will ear him complain of flatulency, for which a B-and-S s the sovereign remedy, and he will inform you of his onstant acidity and nausea. At the same time his ppetite is bad, unless it be assisted by something that ntices it, and his sleep so broken from dyspeptic warnngs that some stimulant is usually at hand in the ressing-room or bedroom. The temperature of his ody is variable, sometimes high and feverish, someimes low and chilly. His secretions are constantly requiring regulation; and with these symptoms, in greater r less degree, there is a lassitude of digestion during igestion, and a constant sinking in the stomach between he periods of meals which conveys to him a most unleasant sensation. I beg all alcoholic sufferers to read

back for themselves these indications, and I challenge them by their consciences, which to them, at all events, are ever truthful umpires, whether I have not written, without a word of exaggeration, precisely what they feel; nay, with the suppression of a score of other signs, such as acid perspirations, giddiness, muscular startings, and faintness, which might most correctly have been added.

These, I say, are the differences you will find, *cæteris paribus*, between abstainers and alcoholics in connection with the digestive process, and the differences depend altogether, as I have now traced them, on the digestive power in the two classes. I think everyone that is just would say, if the question were put to him, which of the two classes have the best of it, that the abstainers have the best of it in respect to digestive power.

And yet the difficulty is ever being put forward by those who indulge in alcohol that they cannot learn to abstain because they find alcohol is so absolutely necessary to promote their digestion. They cannot relish food without alcohol. They would rather go without food than miss their glass of wine or ale. They feel a persistent load and oppression after food until they get the stimulant to improve digestive power.

Every word of this statement is commonly true, but the truer it is the more fatal is it to the superstition that alcohol is a necessity or a useful agent for man. Every commendation that is thus passed on alcohol is, in fact, its condemnation when the truth is brought to light.

The demand for the stimulant is unnatural, and is acquired. The requirement has been called forth by the very thing that is called for, and the more urgently that thing is called for, the more urgently is the caller forewarned that his necessity for calling is a sign of the danger to which he has been brought, and the need there is that he should extricate himself from the danger without hesitation or delay.

The reading of the phenomena which the alcoholic drinker describes is easy enough. The action of alcohol on the digestive fluids is to prevent their digestive power. Every man who has partaken freely of wine at dinner knows that he has sometimes so effectually stopped the digestion that the food has never been digested at all; and experiments on the artificial digestion of foods explain why the digestion is prevented by alcohol. Still, in the cases above described, the alcohol is called for, and the reason even of this fact is plain. The reason is that the stomach has become impaired in its secreting power by the action of alcohol on its vascular system. Under the influence of the alcohol the vessels of the stomach have been flushed, like the vessels of the cheek, and the tone that naturally belonged to them has become impaired. The heart, enfeebled through waiting for food, is not able to feed the vessels with blood, until it is set free by the stimulant, and they therefore wait for that stimulation before they can pour forth their digestive fluid. Once started, the secretion flows freely, and digestion is accomplished, often, indeed, with an excess of secretion which leads to after acidity and discomfort, or, it may be, pain.

All this is unnatural. It leads to the too rapid wearing out of the digestive organs and to their premature death. In time, indeed, the alcohol itself fails to effect the purpose for which it is taken. The completely paralysed vessels respond no longer to the stimulation of the blood that is poured into them. They sometimes give way under the pressure of the blood. Disease in them sets up disease in the mucous or lining coat of the stomach, and food is either rejected or taken with loathing, followed by pain, and with passage into the lower part of the alimentary canal of food partially digested, there to ferment and keep up a persistent irritation and a confirmed dyspepsia.

I trust I have now exposed this difficulty connected

with alcohol as an aid to digestion. Does anyone feel it strongly, it is proof direct that the alcohol is inflicting its natural injury, and that total abstinence is the only natural cure.

MUSCULAR EXHAUSTION

Amongst the great alcoholic populations there are multitudes who cling to the use of alcohol on the ground that it enables them to meet what they designate as muscular exhaustion. They feel, they say, a general debility, and if they are called upon to perform suddenly some new duty, or to repeat some old duty, they require a temporary prop on which to rely. This prop they find in alcohol.

A glass of wine brings them up to the mark. Here is a new difficulty in the process of learning to abstain, and I am not ignorant of its weight.

When once the alcoholic constitution is established, this sense of muscular failure is easily provoked, and is as easily, for a certain period of life, relieved, momentarily, by alcohol. The *rationale* of the thing is quite understandable. It is the same as we have before seen in respect to the action of alcohol on other organs than the voluntary muscles, such as the stomach and the heart, which, indeed, are themselves muscular organs. We may, however, with advantage briefly glance at the *rationale.*

Muscular exhaustion is due to several causes. It may be due to want of food and to the cutting off of th t supply of nourishment which has to be brought by the blood in order to sustain the construction of the muscles. This is true exhaustion of the muscular fibre; it is the exhaustion that comes from a hard day of physical exercise.

The exhaustion may be due to want of nervous stimulus. It matters not how well a muscle may be

supplied with blood if it lack the nervous stimulus to motion, the wave which excites it to act, and which passes to it from the nervous centres when we *will* that the muscle shall move. So a man well fed, and, as far as movement is concerned, well rested, may be muscularly inactive, if he be worn out by mental work, or worry, or strain. His muscles may be charged for labour like loaded rifles, but he may not be able to give to them the spark that calls them into action. They are rifles uncapped.

The muscular exhaustion may exist from either of these causes for a short period. It may be more permanently produced by changes taking place in muscle itself, or in the nervous centre which supplies the muscle with stimulus to action. The muscular structure is sometimes transformed from its own contractile structure into fatty structure, its natural parts being in a measure replaced by minute particles of fatty matter which occupy space but do not obey the nervous stimulus. The nervous system is subject to the same changes, whereupon it ceases to send forth the stimulus which calls the muscle into activity, however well-conditioned the muscle may be.

Again, the muscular and nervous systems may be charged with foreign matters which interfere, by direct physical disturbance, with their functions. When a man breathes a narcotic vapour he loses his muscular power; he sinks to the earth; he loses also his nervous control over his muscular power; he is prostrated, muscularly and nervously. In somewhat like manner he may be charged, unconsciously, with agents made out of food which he has taken and which has not been correctly digested; or made out of unhealthy secretions of his own body. These agents may cause, in lesser degree than the narcotic vapours, but still determinately, sufficient depression to induce the sense of weariness and fatigue. The uneasiness which comes on from excessive

indulgence in rest is probably of this kind, and is by no means an uncommon form of weariness.

When, then, a man complains of feeling wearied we have to look into the cause of his weariness. If that cause be direct muscular exhaustion, he wants muscular food and rest. If it be direct nervous exhaustion, he wants nerve food and rest. If it be from structural changes in his muscles or nerves, he wants such treatment as will help to remove the unnatural condition that is in progress. If it be from an accumulation of foreign material in his blood, charging the muscles and nerves with a foreign product that directly interferes with the natural function, then he may neither want food, nor drink, nor rest, but actual fasting, or exercise, or a purgative, or a Turkish bath, or some other eliminating agency to relieve him of his weakness.

Suppose, then, weariness arises from any of these causes, what is the part which alcohol will play in respect to them as a means of relief? Will it supply pabulum for new muscular fibre? It will not, for it does not contain the necessary elementary parts out of which such fibre can be made. Will it supply the nervous system with structural matter or with force to yield stimulus? It will not, for it does not contain the necessary elementary parts out of which the active structures of the nervous system are made; neither does it supply stimulus, because under its action, as I have found by experiment, the nervous stimulation is suppressed. Does it help to remove those deteriorating particles which change the activity of muscle and nerve into inactivity,—such as fatty change, for example, or another change I have not named, which is called granular degeneration, and is equally dangerous? It does not. On the contrary, each of these changes is commonly induced by alcohol. Does it neutralise the action of those accumulated products which by their presence in the muscular and nervous structures cause weariness?

It does not. On the contrary, it is itself one of these agents, and by its influence on the secretions of the body it helps to produce others which have the same depressing effect.

What, then, does the alcohol do? Why, in the name of common sense, should the idea that it imparts strength, when all around it supports weakness, be for a moment entertained, and why should such an idea create a difficulty in abstaining from alcohol? The answer is the same as before. The alcohol imparts no strength, but, reducing the vascular resistance, it enables a feeble and enfeebled heart to do for a moment a spurt of work. Nothing is gained. An organism, pumped out already to its natural limit of exhaustion, is pumped out by the further action, to those very reserves which nature meant it to live upon while it was re-fed; and by so much as the reserves are called upon, by so much are the working days of the organism numbered the less.

I hope this assumed difficulty of the weariness of man and the call for alcohol in order to remove it is now sufficiently clear. Every drinker is aware of the practical fact that the excitation of strong drink makes him, in the end, more weary; but as he does not see the danger of the constantly-repeated experiment, he goes on experimenting on himself often to his physical ruin.

It has occurred to me that if I could, in simple language, enlighten men on this subject, I should do far better for them than by following any more elaborate course. Let them but put the difficulty of avoiding the danger by the side of the danger which they must accept when they are about to give way, and I feel sure that the difficulty, which is but temporary, will be encountered, by all who have common sense, that the danger may be averted.

ADDRESS V.

MENTAL AND SOCIAL DIFFICULTIES IN THE WAY OF TOTAL ABSTINENCE, AND ON SUBSTITUTES FOR ALCOHOL.

THERE remain for consideration certain difficulties in learning to abstain from alcohol which are rather to be called mental or social than physical. It is always hard to draw the line between mental and physical phenomena, because it so often happens that mental susceptibilities are clearly traceable to obvious and immediate physical causes.

There is, at the same time, sufficient general distinction to enable me to define what I mean by mental difficulties.

MERRIMENT.

There are many who tell us that they take wine and other alcoholic stimulants in order to make glad the heart, because, as they say, they are at times so depressed and so melancholy. These constitute the first of the classes to whom I would refer as persons feeling a mental difficulty in abstaining. For no other purpose whatever would these take alcohol in any shape, except to make glad the heart. This is the legitimate object of wine and other alcoholic drinks, says the class of whom I speak at the present moment. I could not, in my heart, find fault with this class, neither could I, in conscience, for by the very same argument I defended

ıe use of stimulants, longest of all, while I spoke in ıeir defence. When every other argument crumbled ıto dust; when the fact was as clear to my mind as ıe sun at noonday that alcohol forms no part in the :heme or design of the living creation; when I knew, eyond dispute, that so soon as alcohol is taken in ufficient quantities to be producing a physiological ffect, it is, from that moment, producing an unnatural ffect on the body; when I was satisfied that to court ightness of heart from alcohol is an all but sure mode f learning how *not* to be happy without it; when, I ay, I knew all these facts and many more in respect o the common enemy, I was wont to be deceived by his remaining plea for it.

In some of my general readings I had met with a aying from Sir Walter Raleigh that wine was quite a uperfluity, except for what he called 'recreative occa- ions,' and I fear I wore this argument of the great hilosopher threadbare. It is a convenient argument.)thers who are not furnished with the argument of so ubtle a master, tell somewhat the same story, but in nore lively expression of sentiment. They have dozens f old songs and old sayings of common acceptation to all back upon :—

> 'Life is chequered o'er with woe,
> 'Bid the ruddy bumper flow,
> 'Wine's the soul of man below.'

Very much below, I imagine, in some cases. But his is the way in which the excuse is permitted to un.

I confess, recalling my own experience, I did not get over this idea of the recreative enjoyment until I ıad got somewhat more knowledge than comes even rom scientific work. At last it occurred to me to see, vhat I might have seen at any time if I had looked, hat men who do not take alcohol can and do enjoy

themselves just as much as men do who take it; that abstainers are as merry at festivals as other men are; that their merriment, quite as keen, is chastened, less sensual, and may be more brilliant, while it is not followed by the dangerous and terrible reaction of depression. I learned also that, away from the festive table, their life is often one continued course of quiet and serene happiness, freed of the tempestuous storms of passion and dead calms of inertia which alcohol inflicts on those who indulge in it.

When, then, I had learned thus far, my education was completer than it had been. An employer of labour, whose works I was looking over, bade me listen at the door of one of his workshops, where the work-people, busy at their labour, were singing a melody so sweetly and ringingly, it was a perfect treat to listen to it. 'A few years ago,' he said, 'those voices were all in discord. If one man sang, another would shout out to him to "shut up," and the bawling, reckless, tuneless song would be the cause of a regular row, and perhaps in the end a regular fight, with as many oaths and rude terms as would fill a smuggler's private dictionary. The change,' he added, 'is due to total abstinence from strong drink, which change goes a good deal deeper into the happiness and economy of the home, and even of the nation, than you, I fancy, suspect.' My guide was quite right, and his last words were not thrown to the winds, but the first words were the most telling. Was not the daily, hourly, happiness in that workshop a continued festival? Was it not better than a roaring festival once a week, over groaning tables of alcoholic drinks in a foul atmosphere?

I thought the conclusion possible, and experience has shown to me the correctness of it. It is the fact that the happiness of life is exalted by abstinence. Abstinence leads truly to no thrilling madness of happiness. The swollen stream of life, described by the

oet I quoted in my last lecture, does not rise and hunder: but then, in the absence of rising and thunlering, it does not overflow its banks and lose its volume, and give forth vain sounds; neither does it finally sink into a mere silent little stream, which has no music, nor sufficient force to turn a water-wheel, nor space to give a home even to the minnows. No! but, in the absence of the stormy passage, it is a more uniformly musical stream and one much more useful.

These facts have to be learned to be appreciated, and the difficulty of learning them is the difficulty upon which I am now treating.

It is a compound difficulty, and requires to be subjected to analysis in order to be understood.

NERVOUS IMPRESSIONS AS DIFFICULTIES.

Alcohol produces a distinct order of tolerably fixed impressions on the nervous organisation, which impressions become, in time, parts of the memory, and are not easily or rapidly forgotten. If you hear a tune it fixes itself on the mind, and is, perhaps, after a comparatively brief repetition, never completely lost. What Englishman who has arrived at his majority, and who has been blessed with the sense of hearing, could ever forget the strains of the national anthem? 'God save the Queen' has become a part of himself, and would remain so in spite of himself, though the anthem should cease to revisit his senses. An aged American, whom I attended in the early days of my practice, in the year 1850, told me that he was old enough to remember the saying of the venerables of his childhood, that though the War of Independence had entirely changed the state of things in the United States of America, they could not forget or cast off, without a kind of compunction and difficulty, the custom of

singing 'God save the King.' It required, he sai
new generation to inaugurate 'Yankee Doodle,'
if that or some other substitute had not come ir
believed that the change would have been still lo
delayed.

This is one out of hundreds of examples of the e
of fixed impressions derived from without on
mental organisation, and of impressions derived witl
the will of the persons by whom they are felt. S
impressions are more refined than that I have
plied above. A lady friend of mine was so unfortu
as to lose one of her limbs. It was amputated n
than twenty years ago. Yet she tells me she has n
in fact lost the idea of that limb. The limb is
present to her sensation, even to the feeling, at ti
of pain and numbness in it, and she can at any mon
call up the idea of it as if it were present. It is
the Roman centurion's soldier; it always comes w
she calls it, but sometimes it comes when she does
call it.

The same is experienced by every one, I beli
through minor impressions. In the days of my va
I wore a ring. A very beautiful ring was presente
me, and for some years I wore it on the third fing
my left hand. I found it always very troublesome,
cause in the course of professional work I had so o
to remove it and lay it about, and sometimes for s
intervals lost it, and got quite annoyed at the
At last I left off wearing so handsome an encumbra
and it has not been on my finger for twelve year
least. But the impression is not altogether gone
At first the feeling of the impression at the part on w
the ring had pressed was so distinct, that I used to
out my right hand to carry out a practice I had got
of lifting the ring a little way up the finger and l
again, and was surprised not to find the ring ther
be moved. At this very moment, when the impres

is called up by thus speaking about it, I feel the sensation in a faint but distinct degree.

The great John Hunter was of opinion that a sensation in any part of the body may be felt by merely thinking about it, without any physical intervention; that is to say, we can, as it were, direct a sensation to a part; and, if that be true, we can also train a sensation in a part by the repetition of the act of will.

These illustrations all apply with singular force to the action of alcohol on the body. Alcohol excites sensations of the most determinate kind. It makes the circulation go quicker for a time, and therewith it generates an impression which is felt through every nervous fibre of the body. It makes the circulation go slower after its primary effect is over, and therewith generates an impression which is felt through every nervous fibre of the body. By these two processes it sets up what I may correctly call a 'see-saw' motion of life:—

'Now we go up, up, up,
'Now we go down, down, down.'

—which becomes a veritable part of existence, and continues when the cause producing it is removed. It is like the motion communicated to the body on board a ship, which is felt long after the unsteady limbs are planted on *terra firma*.

The impression induced by alcohol is implanted on the nervous centres. It is also implanted on the nerves of sense, and in a manner strong and intense on the nerves of taste. It does not matter that the taste is acquired; it exists, and is too often the most unconquerable of sensations. One drinker acquires the taste for ale, another for sherry, a third for port, a fourth for claret. Very refined and accomplished drinkers cultivate a second sense, that of smell, and so keenly, as to prefer a drink which has a pleasant odour. Again, some extreme drinkers are held by the mere sense of odour

of alcohol until that becomes a dangerous cause of temptation. The sellers of alcoholic drinks are indeed charged with the distribution of the odour of their strong drinks in order to tempt the wayfarers. I cannot myself accept the accusation as correct; but I have known, in respect to the besotted, that the odour of the grog-shop has brought them irresistibly into it, to taste again and fall into their vice once more.

THE IDEA OF NECESSITY.

To the above-named impressions induced by alcohol and stamped on man, there is another effect of a mental character, which in its way is a difficulty added to the task of learning to abstain. The impression is that of a *necessity* for taking alcohol, and is felt most urgently at particular times and seasons, when some special labour or duty has to be performed. The impression and the labour thereby become connected, and the one calls for the other.

In this manner some men and women acquire the habit of never undertaking certain duties until they have primed themselves for the work by a glass of drink. One of my brethren told me he could do without wine or other stimulant very well except on three occasions; when he was making a *post-mortem* examination, when he was called to give evidence in an open court, and when he was called upon to make a speech. He had always been accustomed to get ready for these emergencies by taking a stimulant, and he felt that he should break down if he left off the exceptional practice. A clergyman who had commenced to abstain got on excellently until the moment before he left the vestry to ascend the pulpit. It had been his practice to have a bottle of wine in the vestry, and before going in to preach a glass of wine was regularly taken by him as though it were a prop as essential as the pulpit. One

day this gentleman, going down the streets of a provincial city, observed at a print shop a copy of George Cruikshank's 'Worship of Bacchus.' Looking with some interest into the details of the picture, he discovered what might indeed have been himself. There was a clergyman just ready to leave the vestry and ascend the pulpit, sermon in hand; and there also was the beadle handing his reverence the usual refresher,—the glass of wine. 'Why, what a knave am I!' muttered the divine inwardly, as he found himself so faithfully caricatured at the worship of the liquor god. But what should he do? He was positively seized with a solemn fear that if he essayed to preach without that foolish prop, he might become paralysed while preaching, or even die. He thought it necessary to seek for some medical assurance on that point, and being assured that no such events were at all probable in his case, he made the experiment of preaching without the aid of wine. He succeeded at once, as a matter of course; but many weeks passed before the impression was reduced to painlessness of effort, and it will probably never be completely removed, although the man now feels a freedom in speaking and a firmness and vigour he never felt before. His deepest regret is that at the commencement of his career he did not know better than to call in such factitious and untimely aid; his career as a preacher would then have been so much more efficient and distinctive.

You will observe that in these cases the impression produces a necessity which cannot be dispensed with without exciting that commonest element in our nature, fear. There is nothing so easy as to succumb to imaginary dangers, especially when they are seemingly at hand, and relief is wanted at the spur of the moment. It is so easy, also, to find imaginary aids which appear to sustain but which have no real sustaining power. The charms and amulets of a past day are seen to this day in

the glasses of wine, and ale, and brandy, which men take to help them on; with this difference, that the innocent charms worn on the breast or limb did no physical harm to internal vital organs, as the alcohol charm does, almost without fail, when it is trusted to as a support.

AUTOMATIC IMPRESSIONS.

The continuance of an often-repeated impression leads to repetition of actions of the body, which at last become a part of our natures, and, in some instances, are transmitted in hereditary line, like a feature. Indeed, the transmission of feature is a transmission of motion in the muscles which produce the expression we call moving feature.

So it happens, naturally, that the repetition of the impression induced by alcohol leads to repetition of actions which, in course of time, become second nature, *automatic*, in the purest sense of the word. The common people have a sentence by which they express this in the case of a hard drinker. They say 'he lifts his hand to his head too often,' and they accompany this saying with the attendant sign. It is true; the man who indulges freely in stimulant does lift his hand too often, and does many other things equally automatic. He passes the bottle too often; he fills his glass too often; he admires the sparkling liquor in the glass too often; he feels thirsty too often; and he has too many times in the course of the day a fixed time at which to 'quench his thirst.' Once, when I was going through the London wine docks, I heard one of the guides say, aside, of a gentleman who was tasting wine, 'I know that man to be a good judge of wine by the way he looks into the glass and washes out his mouth.' That man showed such perfect automatism, that the practised observer gathered him up on the spot as a proficient of unlimited practice and experience.

In some respects automatism is useful. The political shoemaker, who will discuss with you the whole ins and outs of the Russo-Turkish question, or give you a lively sketch of the respective merits of Mr. Gladstone and Lord Beaconsfield, while he automatically stitches the sole of a boot to the welt without once pricking his fingers with his awl, or missing a stitch, finds his automatic skill very useful. But when a man comes to the automatic feat of swallowing so much alcohol at set times in the day, or when he feels it impossible to traverse certain streets without turning into the public-house which he 'uses,' then matters automatic assume a very different complexion indeed. It is in this mode that alcohol steals on men and makes them its bounden slaves before they are conscious they have lost their freedom. The mode is even made subject of apology for and by those who fall into it. How many thousands of anxious friends every day make excuses for those they love, and say in sad explanation, 'He didn't mean it, but when he is in presence of wine he really does not know how much he takes, he takes it so mechanically and without thinking?' How many thousands of drinkers daily make the same apology for themselves, and declare, with the most vehement resolution, that they will be on their guard next time, which resolution they maintain until the temptation to the automatic repetition comes once more in their way?

We see, then, that the pure mental difficulties are manifold in character. There is the implantation of impressions of a fixed kind. There is the creation of the idea of necessity, with the further creation of a fear or superstition, a notion of reliance on something which is worse than useless, because it not only deceives but undermines. Lastly, there is the creation of that automatic faculty which leads to such blind and ruinous consequences.

ALCOHOLISM *versus* NATURE.

And here is a good time for me to point out a physiological peculiarity which, I doubt not, you may all have felt respecting alcohol in its action on man, but which has not, I think, been previously stated. It is this. That the purely extraneous position held by alcohol in relation to life is proved by the very production, through it, of mental aberrations. Nature, you will remember—so soon as you begin to think on the subject—Nature gives us for nourishment all we want in proper foods, but in so giving to us direct from her own hand, she gives us no food whatever that creates insatiable desires for itself; strange impressions; senses of urgent necessity for one thing and no other thing; superstitious fears about abstinence from one thing and no other thing; automatic demonstrations for one thing and no other thing. Milk is the first food we live upon, and it is a standard of foods; but whoever felt a sensation ineradicable from the tasting or drinking of milk; or the sense of urgent necessity for milk and no other thing; or the fear about abstaining from milk lest something dreadful should happen; or the institution of automatic phenomena from the imbibing of milk, so that whatever else may not be had and possessed, milk must be? Whoever heard of a man lifting his hand to his head too often with a glass of milk?

The fact lies, indeed, on the other side. Nature makes the animal grow weary and satiated by too frequent repetition of her own gifts lest they should injure from too constant use, and beget a carelessness for variety which, in presence of all her bounty, is indispensable. See, in this, how alcohol stands out from the natural ordinance. If alcohol stood forth as a necessity, what an all-absorbing and destructive necessity would have been put in the first position of necessities! Nature would then have designed a thing that systematically

kills: that creates a new order of short-lived beings to be killed by her produce.

Let us look at this argument by the side of another. In Eastern countries a number of men, and of women too, I believe, partake of an organic product, prepared out of the vegetable world, by a process still simpler than that by which man prepares alcohol out of the vegetable world. The substance is commonly called haschish. When it is swallowed, it produces, as alcohol does, a state of intoxication, attended with dreams of the most astounding kind. The whole mind seems to be transformed; visions of times illimitable, of centuries on centuries, pass before the mind in mere seconds of time; visions of spaces illimitable pass before the mind in mere seconds of time; while so ductile is the intoxicated man, that he can be led by the slightest touch into any act or expression. The story of the Old Man of the Mountain, says my learned friend Professor Polli,—who has been under the influence of haschish for experiment's sake,—the story of the Old Man of the Mountain, who could lead men wherever he willed, is easily explained by the action of this potent intoxicant.

This intoxicant, like alcohol, is given to man indirectly by Nature. As a food, it has just the same claims as alcohol has. As an intoxicant, it has better claims. The drunken frenzy it excites is finer; the oblivion of care deeper; the physical injury to the body is less. When it is regularly indulged in, it sets up desire; it sets up necessity for itself; it banishes fear; it leads to repetition of action. Are not the defences for it just as good as the defences which are so constantly set up for alcohol? If alcohol be a gift from on High, as it is claimed to be, so is haschish. If alcohol be a divine gift, haschish is diviner. I contend against both, in the light in which they are put as necessary gifts, and I place them together most fairly, for the purposes of

the inferences I am forced to draw as to their true place in Nature.

These inferences are:—(*a*) That the physiological action of these agents, if the use of either of them were persisted in universally, would lead to a new mental and physical development of the human race. (*b*) That for the support of such a race there is no sufficient provision in the scheme of creation as it is now before us, and, as far as we can see, no object or intention of a natural kind, because the end of such a race would be universal insanity and death.

ALCOHOL AND MELANCHOLY.

Over and above the purely mental effects produced by alcohol, there is an action of it of a mixed physical and mental order which is signally destructive. In dealing with the action of alcohol on the muscular power, I explained that there is a form of muscular or physical weariness which does not depend on exhaustion of muscle, but on the presence, in the blood, of accumulated organic substances which are made in the body, and which, owing to their presence, interfere with the muscular activity. These substances being removed from the body by a dose of purgative medicine, or brisk exercise, or change of atmosphere, or a Turkish bath, the weariness passes away. The same or similar substances produce, by their presence in the body, weariness of the mind, low spirits, and, I had almost said, despair. I am sure there is not one of you here, be he an abstainer or not an abstainer, who has failed some time or other to experience this sensation; that occasionally, when there is least cause for depression of mind, there is a depression which nothing can shake off; and again, that occasionally, when there is some real cause for trouble or anxiety, there is a lightness of spirit which carries you through, as if nothing of any moment had

occurred. We are accustomed to say that the weather has a great deal to do with these changeful moods, and there is a strong dash of truth in the saying. But how does the weather act? It acts through the body. When the atmosphere is laden with moisture, and when with moisture there is cold, or when with moisture there is great heat, the body cannot throw off its secretions from the skin and lungs so freely as when the atmosphere is crisp and dry. When the air is heavy and close the body is unable to throw off freely its secretions, and, with the change that takes place in the activity of its animal chemistry, it becomes for a time oppressed, and the mind weary and woebegone.

The natural remedy in all these cases is simple enough. It is to wait for what is sure to come, natural relief; to fill up the waiting time by active exercise, that shall counteract the cause of depression, and shall work it off, if I may use so plain a term. Or, as Cowper, following Horace, puts it:—

> What though thy heaven be overcast,
> The darkness will not always last,
> Expect a brighter sky.
> The god that strings the silver bow,
> Awakes sometimes the Muses too,
> And lays his arrows by.

I think this is common-sense experience for all who will follow it, and I dwell on it because it is corrective of one of the most grievous of errors. It is in the sad and sorrowful moods, the natural and yet evanescent periods of depression, that foolish men and women fly to alcohol for relief. For a time the stimulant quickens the circulation of the blood, and does seem to cheer. But remember that it does nothing more. It does not help to carry out of the body the depressing causes, those agents which can only be removed by brisk excretion and active waste of the body. On the contrary, alcohol locks up the secretions; causes accumulation of

the products of secretion; makes the breath heavy and disagreeable; arrests the action of the liver; and, in the most favourable of seasons, leads to the very evils it is so often taken to relieve or remove.

Hence it happens that they who take alcoholic drinks to remove mental depression, and who adhere to the practice, are persons whose doom may be too truly foretold. They sink into entire slavedom to drink: they soon become disorganised, and they soon either pass into insanity or die from organic disease.

The difficulty of rescuing these unfortunates is indeed great. For them there is no remedy but to abstain once and for all, and they are so easily disheartened, so morbidly sensitive to fear, they are all but unmanageable. We get them now and then to forswear and reform. They bear 'the privation,' as they call it, for a time, and if they were cheerfully sustained they would get on well; but something crosses their path. A friend laughs at them; a friend tells them how bad they look; a friend says, 'One glass, old fellow, to cheer you up:' and so the way to death is reopened to them.

ALCOHOL AND MENTAL EXHAUSTION.

There is one more physical, mental state in which weariness of mind is felt from another cause, that is, from sheer mental exhaustion. In this day there is too much of sheer mental exhaustion, and the fact is used over and over again as an excuse for having resort to alcohol. The jaded brain is craving for rest, and instead of rest it is treated with alcohol. It asks for bread, and it gets a stone. Its vessels are filled with blood, and at last the wearied heart begins to fail in power to propel the blood onward. Then the man feels heavy and oppressed in the head, or it may be, giddy and stupid, and at the same time wearied at the heart and feeble in the limbs. A patient once described this state to me

three expressions, photographic in their fidelity; 'I m top-heavy; hollow in the middle; and down at the nees.'

In this state the rage is for alcohol. The alcohol upplies nothing, gives no force, gives no constructive natter either for brain or muscle; but, for a spurt, it lets he heart run a few paces faster, like a clock running lown, and that motion is mistaken for strength, and hat work which is done merely *under* the influence of the alcohol is believed to have been done *by* it. Thousands upon thousands of our countrymen, who pos- ess the best brains of the country, make use of alco- ol for this insane purpose: worse still, they swear by it n this insane mood, and not until they are stricken lown by it with diabetes, or epilepsy, or paralysis, are hey conscious of their insanity. They are not always conscious then, for some learned word applied to the lisease too often covers the cause and gilds the evil.

The difficulties which oppose abstinence in these persons are as prominent as in the melancholic class; but on the whole are perhaps not so obstinate. The brain-workers, as a rule, are wise men, and only go wrong from utter ignorance of the folly in which they have been innocently trained.

THE SOCIAL DIFFICULTY.

Connected with the topic of mental difficulties and abstinence, there is one more difficulty which affects all classes. I refer to what is known as the social difficulty. In many instances the social difficulty arises really out of fear or nervousness, and, in so far, is allied to the mental obstacles. Men who, themselves, do not care a button for a stimulant sip their wine and see their less favoured comrades drown themselves, morally, in wine; and from absolute fear of being considered peculiar retain the privilege of observing the ruin that is being

inflicted. Thus by a tacit acquiescence they lend themselves to the misery that is entailed. There is here involved the fear of being peculiar, of being unpopular, and perchance in some the honest fear of seeming to pretend to be better than the majority of mankind. These various sentiments have marked influence on character, and when they combine in a man they make him very resolute against the principle of abstinence: more resolute than some persons who drink heavier, but, who, knowing the consequences and feeling the desire to avoid them, are ready to admit the slavery to which they are subjected.

To the persons who are in fear of the social discredit arising from total abstinence I have nothing to suggest beyond the hope that in time their admiration of the world and its fashions will of itself lead them to abstinence as the thing in fashion. I can meantime assure them that a man may enjoy every social privilege and favour while acting conscientiously as a total abstainer, and that in all society which is worth cultivating and maintaining there is no adverse remark made upon abstinence. It is only the vulgarest of the vulgar, in these days, who comment with levity and insult on the abstaining members of society.

ON LEARNING TO ABSTAIN.

And now I pass to a new topic altogether. I wish in the brief time at my disposal to say a word or two of a practical character to those who are resolutely learning to abstain, and who want to know how they shall step most easily and safely from the habit of taking strong drink into that of abstaining from it. I have already commended the practice of instant abstinence, and have illustrated the safety of the practice. I wait, therefore, the merest moment to repeat that

this course is the safest. At all events it is my experience,—and very few living men have more opportunity for learning from experience on the question,—that the best and safest abstainers are they who break through the habit at once and for good. I have known numbers of perfected abstainers made by this ready process. I have yet to wait to find one perfected abstainer by the dallying drop-by-drop cessation process. I do not say that the drop-by-drop plan is necessarily ineffectual in every instance, and I would give it, if no other plan were permitted, a fair trial. But I am convinced the masses will never be converted by it, and that so long as it is petted and approved, so long we shall be fighting with a one-foot-forward and a one-foot-backward movement.

I would urge again that no one need be prevented from abstaining on the excuse of his hereditary proclivity for drink. That proclivity can in the worst cases be overcome, and it is in most cases a mere bugbear unworthy the consideration of earnest men. It is the duty of everyone, be he abstainer or not, to quash this plea, which, if admitted, would in turn quash all effort at reform, and encourage a drunken, short-lived world, a new order of humanity, hardly human, and in danger, it may be, of sinking into some lower state of animal life, possessing neither the instinctive protective faculties of the dumb animal nor the higher reasoning faculties of speaking, reflecting man.

To those who are anxious to abstain, the pressing difficulties that have to be met relate to the exhaustions that are at first felt, the indigestions that are complained of, the feelings of physical weariness, the different conditions of habit, and the depressions and fears to which attention has been called.

In respect to these difficulties the greatest differences prevail in different persons and constitutions. To

persons of strong and resolute will, the difficulties disappear at once, even when alcoholic habit is long confirmed. Such persons suffer, but they endure, and in time they conquer. I fear that these sometimes become the most severe of critics on wavering converts, but they are always strong in every course they take, and have to be forgiven more freely than they forgive.

To persons of very conscientious feelings, but of sensitive nervous nature,—and there is no small number of this sort,—the struggle is very severe. In them every change that occurs is a sign of failure of the new system. Every symptom of disease from which they suffer is attributed to their new effort, even though the same symptoms may have been felt over and over again under the old system. Every doubtful observation made by scoffing friends on their condition or appearance alarms them, and a doctor's very expression of countenance, to say nothing of his traditional shake of the head, is sufficient to plunge them into despair. These persons are very much to be pitied and encouraged. In institutions where all abstain, and where the idea of taking alcoholic drinks is not thought of or mentioned, they get on capitally, and when they are supported, even by one or two friends, they get on capitally, for they live on example.

To persons of very selfish disposition, but still of conscientious principle,—and there are shoals of these,—the struggle is hard and ambiguous. They try to deceive themselves in order to have the excuse of gratifying both their principles and their desires, and the contest is often sufficiently sharp. These are they who so constantly strive to make the doctor the minister to their gratification. They declare to the doctor, with a fierceness and firmness that seem irrevocable, their determination to abstain. They follow up the declaration with such a list of awful symptoms that he, innocent man, not understanding them, may sympathise

with them and be sincerely touched with their heroism on the one hand, and their sufferings on the other. Or, shrewd man, and of the world worldly, understanding them perfectly, and with far more sympathy for himself than for them, he may see his way to win their entire confidence. In either case they get what their souls long for, namely, the intimation that their resolution is most commendable, a model resolution, but that it does not suit their own particular constitution. They must take a stimulant to keep them up; not more than they feel sufficient to keep them up, but sufficient for the purpose, their own common sense being the most correct guide. These persons rarely learn to abstain. They are under medical advice, and they regret extremely that, owing to the absolute direction of such advice, they cannot take to perfect abstinence. I have known men and women who were killing themselves with drink continue the operation on this plea, laying the whole blame on the doctor, and at the same time taking happy advantage of his prescription.

SUBSTITUTES FOR ALCOHOL.

To those who seriously want to abstain, and who are not influenced by any of these different disturbing sensations, there still remain some difficulties more or less determinate. Sober-minded at heart, they ask only for enlightenment how to proceed.

The commonest inquiry made by such is, 'What shall we substitute for alcohol? When we feel languor of the circulation; languor from exhausting drain on the body; dyspepsia or digestive feebleness; depression of mind; nervous weariness;—what shall we substitute for alcohol?'

I have been written to a hundred times a year at least, for the last three years, about the question of

substitutes for alcohol, and I might have stocked m empty wine-cellar with the various specimens of subst tutes for alcohol that have been sent to me. I must b pardoned for dwelling, therefore, for a page or two o this question.

In a physiological point of view there is no safe sub stitute for alcohol. Alcohol acts on the living bod after a specific plan, to imitate which action by a sub stitute would be to replace alcohol by something tha would be at best equally injurious. It may be laid down as a rule in reference to the action of chemical agents on living bodies, that the agent which produces the same symptoms leads, on repetition of action, to the same consequences. I could introduce many substitutes for alcohol; but if those who ask for such substitutes want the same effects the substitution would be a distinction without a difference.

Suppose that which was wanted was nothing more than an agent that would produce rapid intoxication, then the case would be different. I could supply such an agent at once, and one that would produce much less of injury to the body. Rectified ether, for example, would play this part, and indeed has played it, but that would not be the kind of agent that the masses would like, or that the cultivated masses would tolerate.

Of the chemical agents which act on man to produce effects like those which are caused by alcohol —and almost all of the kind that are known have, at various times in the past thirty years, passed through my hands for experiment,—I know not of one that could replace alcohol without inflicting similar dangers. Neither from a study of the *rationale*, or mode of action, do I see that any such substance is likely to be found. It would be a pity indeed if such a substance were discoverable, for who would wish to have possession of a substance that would cause all the crime and misery of alcoholic intemperance, and leave the persons it infected

as physically scatheless and long-lived as the wise and temperate of the community?

But are there not some minor substitutes? Is there nothing that will take the place of alcohol for social purposes, and, harmless as water, represent wine; something that will please the palate in the form of a drink? Is there nothing that will support when it is taken as a drink, and relieve fatigue and exhaustion, mental and bodily?

There are a great many very pleasant drinks that please the palate. When, at the latter part of the last century, the illustrious Dr. Priestley charged water with carbonic-acid gas and gave to us aërated water, he added a very pleasant form of drinking-water, which lately has been singularly improved upon. Mr. Larmuth, of Tunbridge Wells, has produced a series of aërated waters which vie with many wines in delicacy of flavour. He also and Mr. Heriot have made substitutes for ales and beers which are most refreshing and agreeable. Mr. Frank Wright has produced an unfermented wine made from the juice of the finest grapes, which is unexceptional of its kind. Mr. Hogben and some others, including again Mr. Wright, have produced syrups which are to many tastes most commendable. But these are not like alcohols in the physiological point of view. They do not quicken the motion of the heart. They may be considered as social substitutes in so far as they add to the beauty of the table and to the pleasures of the senses, but they do not exhilarate by quickening the courses of the blood. They do no harm in that way.

Some of them, however, contain saccharine principles which go to act as fuel foods. The unfermented wine is of this sort, and the so-called non-alcoholic ales and stouts are also of this sort. Some contain a little free acid, which may assist digestion.

There are certain advantages attending the use of these drinks. They minister to the sense of taste, and

they give the opportunity for display of elegance, but they do not take the place of alcohol in the common meaning of substitution. They do not give that baneful fillip to the circulation; they do not give that false sense of relief from weariness which alcohol gives, and for which it is so dangerously prized.

In what way, then, shall the weariness be met?

In the first place, those who are weary ought to ask themselves what is the cause of the weariness. If it be from accumulated product of secretion, if it be a weariness that is curable by exercise or other means for producing elimination, that is the remedy of remedies which shall best relieve the body of its load. It is remarkable in what a large number of cases this simple plan succeeds. In all cases where there is plethora and fulness of body and lethargy, and where there is no actual disease, exercise is the sovereign remedy for weariness, both of mind and body.

For the weariness brought on by actual muscular fatigue, the best substitutes for alcohol are simply food and rest. We have drinks, however, which more than substitute alcohol, which really enable the body to continue at work, and which supply force and matter for nutrition. The best support of this kind, the nearest approach there is to a fluid acting like a stimulant, without producing the injurious effects of alcohol, is a solution of well-cooked oatmeal in beef-tea, or, in lieu of beef-tea, a portion of Liebig's extract of meat. Thin oatmeal solution itself is a far better support than alcohol, as Dr. Parkes found by direct experiment, but it is poor when it is compared with the solution above named. This enters so quickly into the circulation, and is so rapidly applied as a food, that it rivals alcohol in immediate effect, while it supplies a continuous sustainment and inflicts no injury. It is, in fact, a desideratum at present to produce a fluid, made out of these simple and natural materials, that will keep,

and will be as ready at hand as ales and beers. Such a fluid might in the summer time be charged with carbonic acid, and would then be gifted with all the sparkling freshness of aërated water.

The useful effect of such a drink is so manifest that it would command, I am sure, an immediate application by all classes of society, and amongst the poorer classes would largely replace malt liquors. I commend the subject, the production of a ready fluid of this kind, to the earnest attention of the Council of the National Temperance League.

The same fluid would prove equally useful for women who are nursing their children, and for them it might be improved by the addition to it of a trace of a salt of iron. For them, in the absence of such a fluid, milk is the best drink.

For those who are suffering from mental exhaustion and weariness the first and best of all remedies is rest. Mental weariness is much more dangerous than physical, and of all things again does not admit of being played upon by a stimulant. None are so injured by stimulants as mental workers. To my friend who had the heavy head, sinking heart, and trembling knees, the prescription I gave was, 'Lie down and sleep, if it be only for half an hour, after taking a very light meal.' And this is the best advice. In these instances coffee or tea taken in moderation come in admirably, coffee being the best for most persons. At all times a cup of wheaten porridge made with milk is an excellent restorative. Beef-tea and Liebig's extract are not so much required for brain as for muscle weariness.

For the indigestion or slow digestion which some feel when they begin to leave off alcohol no special substitute is required. The cause of this symptom I have already explained. It is a symptom which never fails to pass away if the abstainer will but have patience to give the stomach time to come back to its natural

functions. I have known many try to meet the difficulty by taking effervescing bitters and effervescing ginger drinks. Those drinks produce, sometimes, a temporary good, but if they be long persisted in they cause acidity, and flatulency, and further stomachic debility. Like alcohol, too, they beget a habit which calls for them, and which is injurious.

In fine, he is the only safe abstainer who learns to rely simply on the fluid which the great Chemist and Ruler of life, and Framer of our bodies has given us for our use—the fluid which the Father of all has physically constructed for us and for the whole of His living creation—the fluid which He, in His infinite knowledge and wisdom, has ordained as sufficient for our every required labour, our every wholesome pleasure, our every necessary want. That fluid is water.

In the use of water as the only drink, prudence is required in one particular respect; I refer to the quantity taken. It is not much fluid that is wanted, and it is not much that can be borne. It is one of the further dangers of alcoholic drinks that they create a thirst which leads to the swallowing of many times more the weight and volume of water than can be usefully applied. If you watch abstainers and alcoholics in this matter you will be startled with the difference that is observed. It is an exception to see an abstainer who exceeds the natural maximum quantity of forty ounces of fluid in twenty-four hours, while it is the most common thing to see an alcoholic who will take four and five times that amount. The effect is most deleterious. The stomach of him who takes the excess is kept distended with liquid; the digestive juices are too freely diluted; the blood is made unduly thin; and the vital organs, muscle and brain particularly, are made lethargic and feeble.

It is an art in learning to abstain to learn to reduce the quantity of water that is taken with food.

Lastly, in abstaining from strong drink it is an utter delusion to suppose that therefore more of other food and of richer food is required. Keep in mind that alcohol is not food, and therewith keep in mind that nothing in the shape of food is required to replace alcohol. Abstainers, according to my experience, learn, in abstinence from drink, the truest temperance in the use of foods. One act of temperance leads to the other. With them it is true, as a rule, that,—

> 'Digestion waits on appetite,
> 'And health on both.'

so that they take food with zest; yet gluttony is all but unknown amongst them. Gluttony is the offspring of sensual desires, and nothing feeds it so grossly as strong drink.

To the young abstainer from strong drink, therefore, I say. Be temperate also in respect to food. Then will you not weary your digestive power, nor call on your nervous system for excess of force to back up your digestion, nor load your vital organs with products of decomposition which they cannot easily remove. And so, being temperate in the demands you make on your vital powers, you will feel all the less the necessity for those foolish artificial props which lift you up to let you down, and which cripple you in both steps of that ignoble process.

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